THE EFFECTIVENESS OF QUANTUM METHOD TO TEACH WRITING VIEWED FROM STUDENTS' CREATIVITY

(An Experimental Research to the Eighth Grade Students of SMP N 1 Bulukerto in the 2011/2012 Academic Year)

Written by:

TEGUH KIYATNO

NIM S.891008093

Thesis

Written to Fulfill One of the Requirements

to Obtain the Graduate Degree in English Education

ENGLISH DEPARTMENT

GRADUATE SCHOOL

SEBELAS MARET UNIVERSITY

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FROM THE BOARD OF EXAMINERS

THE EFFECTIVENESS OF QUANTUM METHOD
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PRONOUNCEMENT

This is to certify that I myself write this thesis entitled "**The Effectiveness of Quantum Method to Teach Writing Skill Viewed from Students' Creativity** (An Experimental Research to the Eighth Grade Students of SMP N 1 Bulukerto in the 2011/2012 Academic Year)". It is not a plagiarism or made by others. Anything related to others' work is written in quotation, the source of which is listed on the bibliography.

If then this pronouncement proves wrong, I am ready to accept any academic consequences, including the withdrawal or cancelation of my academic degree.

Surakarta, 16th July 2013

Teguh Kiyatno

ABSTRACT

Teguh Kiyatno. S.891008093. 2013. *The Effectiveness of Quantum Method to Teach Writing Skill Viewed from Students' Creativity* (An Experimental Study to the Eighth Grade Students of SMP N 1 Bulukerto in the 2011/2012 Academic Year). First Consultant: Dr. Ngadiso, M.Pd, Second Consultant: Dr. Abdul Asib, M.Pd, Thesis, Surakarta, English Education Department, Graduate School, Sebelas Maret University.

The main objective of the research is to find out whether: (1) Quantum method (A_1) is more effective than Direct Instruction method (A_2) in teaching writing; (2) The students having high level of creativity (B_1) have better writing skill than those having low level of creativity (B_2); (3) There is an interaction between teaching methods and creativity in teaching writing.

The experimental method of 2 by 2 factorial design was employed in this research. The population of the research was the eighth year students of SMP Negeri I Bulukerto in the 2011/2012 academic year. By using cluster random sampling and lottery technique, the result was 24 students of class VIII B as the experimental group taught by using Quantum method, 24 students of class VIII C as the control group taught by using Direct Instruction method, and 24 students of class VIII A as the try-out group.

The main ways to get the data in this research are test methods. After the treatments were given in nine meetings, the researcher conducted a post-test to get the research data. The research instruments consist of the initial Munandar's Verbal Creativity Test and the final Writing Test. Before the instruments were used, a try out was done to know the readability of the instruments. Having got research data, the researcher analyzed the data in terms of their frequency distribution, normality of the sample distribution, and data homogeneity. Then, researcher used ANOVA test and Tukey's test to test the research hypotheses.

Referring to the results of the analyses, it can be concluded that: (1) Quantum method is more effective than Direct Instruction method in teaching writing; (2) Students having high creativity have better writing skill than the students having low creativity; and (3) There is an interaction between teaching methods and students' creativity in teaching writing.

Based on the research findings, it can be concluded that in general the eighth year students of SMP Negeri 1 Bulukerto who were taught by using Quantum method in the experimental class have better writing skill than those who were taught by using Direct Instruction method in the control class. Therefore, it is recommended for English teachers and students to apply Quantum method in their writing class.

Keywords: *Quantum Method, Direct Instruction Method, Writing Skill, Creativity,*

ABSTRAK

Teguh Kiyatno. S.891008093. 2013. *Effektivitas Metode Quantum dalam Pengajaran Menulis ditinjau dari Kreativitas Siswa* (Penelitian Eksperimen pada Siswa/i Kelas Delapan SMP Negeri 1 Bulukerto pada Tahun Pelajaran 2011/2012). Pembimbing I: Dr. Ngadiso, M.Pd, Pembimbing II: Dr. Abdul Asib, M.Pd, Tesis, Surakarta, Program Studi Bahasa Inggris, Pascasarjana, Universitas Sebelas Maret Surakarta.

Tujuan utama dari penelitian ini adalah untuk mengetahui apakah: (1) metode pembelajaran Quantum lebih effektif daripada metode pembelajaran langsung dalam pengajaran menulis; (2) siswa/i yang memiliki tingkat kreativitas tinggi menghasilkan prestasi menulis yang lebih baik daripada siswa-siswa yang memiliki tingkat kreativitas rendah; (3) ada interaksi antara metode pembelajaran dan tingkat kreativitas dalam pengajaran menulis.

Metode penelitian eksperimental dengan desain faktorial 2 x 2 diterapkan pada penelitian ini. Populasi penelitian adalah siswa-siswi kelas delapan SMP Negeri 1 Bulukerto. Dengan cara pengambilan sampel klaster acak dan teknik lotere, hasilnya adalah 24 siswa/i kelas VIII B sebagai kelompok eksperimen yang diajar dengan metode Quantum, 24 siswa/i kelas VIII C sebagai kelompok kontrol yang diajar dengan metode Pembelajaran Langsung, dan 24 siswa/i kelas VIII A sebagai kelompok uji coba.

Cara utama mengumpulkan data pada penelitian ini adalah dengan metode tes. Setelah tindakan pemberdayaan dilakukan dalam sembilan pertemuan, peneliti melakukan tes untuk mendapatkan data penelitian. Instrumen penelitian tersebut terdiri atas Tes Kreativitas Verbal Munandar awal dan Tes Menulis akhir.Sebelum instrumen tersebut digunakan, uji coba dilakukan untuk mengetahui keterbacaan dari instrumen tersebut. Setelah mendapat data penelitian, peneliti menganalisa data berdasar distribusi frekuensi, normalitas penyebaran, dan homogenitas data. Kemudian,peneliti menggunakan tes ANOVA dan Tukey untuk meneliti hipotesa.

Berdasarkan hasil analisis, dapat disimpulkan bahwa: (1) metode Quantum lebih effektif daripada metode Pembelajaran Langsung dalam mengajar menulis; (2) siswa/i yang memiliki tingkat kreativitas tinggi mempunyai keterampilan menulis lebih baik daripada yang memiliki tingkat kreativitas rendah; dan (3) ada interaksi antara metode pembelajaran dan tingkat kreativitas dalam pengajaran menulis.

Berdasarkan temuan penelitian, dapat disimpulkan bahwa secara umum siswa/i yang diajar dengan metode Quantum di kelas eksperimental memiliki keterampilan menulis lebih baik daripada siswa/i yang diajar dengan metode Pembelajaran Langsung di kelas kontrol. Oleh karena itu, disarankan bagi para guru bahasa Inggris dan para siswa untuk menerapkan metode Quantum dalam kelas menulis mereka.

Kata Kunci: *Metode Quantum, Metode Pembelajaran Langsung, Keterampilan Menulis, Kreativitas*

MOTTO

“Education is the kindling of a flame, not the filling of a vessel.”

(Socrates)

DEDICATION

This thesis is dedicated to:

- His beloved wife, Tri Wahyuni Waljiyansih, and his children, Retno Adiningsih and Yogi Prasetyo Nugroho, for their endless love, forever support, and eternal prayers
- Everyone who always struggles in their life to be, to do, and to have the best in the sincerest faith of heavenly deeds

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Alhamdulillahir Robbil ‘Alamiin,Thank to Allah SWT, God Almighty, for the heavenly blessing and guidances so that the writer is finally able to finish the thesis. In doing this work, it is impossible to finish it without contributions, helps, suggestions, and comments from many people. He is greatly indebted and thanks so much to each of them, that he would like to express his gratitude to:

1. The Director of Graduate School of Sebelas Maret University for giving the writer permission to write this thesis,
2. The Head of English Education Department of Graduate School of Sebelas Maret University for giving the writer suggestion to do this thesis well,
3. The first consultant, Dr. Ngadiso, M.Pd, for his guidance in finishing this thesis,
4. The second consultant, Dr. Abdul Asib, M.Pd, for his suggestion in improving this thesis,
5. The Headmaster of SMP Negeri 1 Bulukerto for his permission to conduct the research,
6. His eighth year students of SMP Negeri I Bulukerto for their participations in his research well.

Constructive suggestion and revised correction is really needed for this work. However, the writer hopes that this thesis can be used by everyone who concerns to improve the English teaching learning process in the future time.

Surakarta, 31st July 2013

Teguh Kiyatno

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CHAPTER I

INTRODUCTION

A. Background of the Study

God gives better grace for human beings than other creatures to fulfil their duties in the world. Dardjowidjojo (2008: 189) states that human beings have better linguistics capacity to progress than animals in their innate properties and faculties of the mind. Being supported by the biological development of speech organs and the neurological evolution of structured organizing brain, human beings use their better properties to construct and develop their human languages. Some specific features of human languages make human languages more flexible, effective, and complete than animal's call system related with their capabilities coping the needs for better means of communication. In their life human beings then utilize their languages not only to fulfil their needs to communicate one another in their communities but also to share their ideas or knowledge for increasing their civilization. Moreover, after human beings construct writing systems as secondary device of their language representation beside their oral speech, human languages play more important roles as means of communication in cultural transmission bringing human beings into better education and evolution than other creatures.

Nowadays there are thousands of human languages used by people in the world. One of them is English which is recognized as an important international language in the world. In the recent globalization era, English as current Lingua

Franca for people around the world with different language backgrounds to communicate one another is getting more and more important. Moreover, the need for a global language is particularly appreciated by the international academic and business communities. Crystal (2003: 3) states that a language achieves a genuinely global status when it develops a special role that is recognized in every country. English has become the most popular language in the world through the long road of its historical background. The development of English to its present status is mainly the result of the domination by English speaking countries all over the world. The expansion of British colonial power up to the end of the nineteenth century and the emergence of the United States as the current world economic superpower in the twentieth century are two dominant reasons for popularity of English as a world language and the factors which have influenced and sustained the spread of the language. Nowadays English is spoken in almost every country in the world as first language (L1) in the countries in "Inner Circle", second language (L2) in the countries in "Outer Circle" or foreign language in the countries in "Expanding Circle" as shown in the following figure of Kachru's Three-Circles Model of World English (Lauder, 2008: 11).

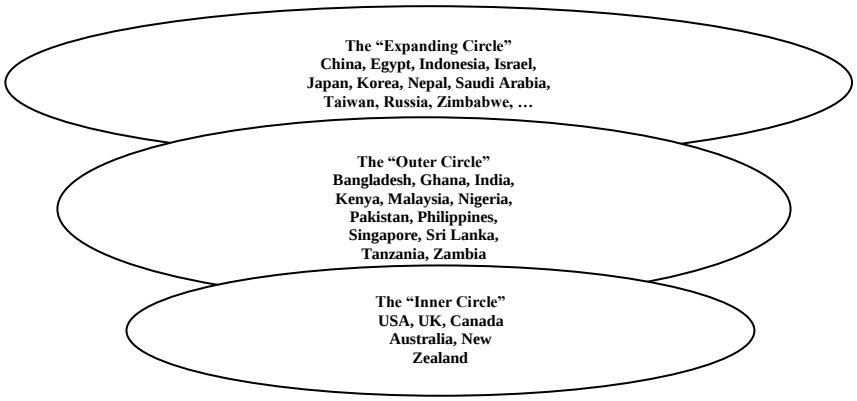


Figure 1 Kachru's Three-Circles Model of World English

Because of its important role as the International language in the recent globalization era, English has become the first foreign language and one of the compulsory subjects which has been taught from Junior high school up to university level in Indonesia. Thus, the English mastery must be achieved by the students as their target of educational goal.The curriculum of English as Foreign Language (EFL) in Indonesia has changed for many times (curriculum 1968, 1975, 1984, 1994, 2004, and 2006). The recent curriculum then states that the objective of the English teaching is to enable the students to communicate in four basic language skills as the main ideal conditions to achieve. These will involve receptive skills: listening skill (understanding the spoken language) and reading skill (understanding written language) and productive skills: speaking skill (producing spoken language) and writing skill (producing written language). However, although English has been studied as the first foreign language in Indonesia for decades till nowadays the main ideal condition of the students' English performance has not been able to reach yet.

Among the skills mentioned above, naturally writing is determined as the last skill to acquire and learn by children or students after listening, reading, and speaking skill. Harmer (1998: 79) in Harsyaf, et al. (2010: 4) describes the reasons for teaching writing to students of English as foreign language:

1. Reinforcement. Some learners acquire languages in a purely oral/aural way, but most of them benefit greatly from seeing the language written down. Writing also reinforces the grammatical structures, idioms and vocabulary that students have learned.

2. Language development. The mental activity learners go through in order to construct proper written texts is all part of the ongoing learning experience. Thus, the relationship between writing and thinking makes writing a valuable part of any language courses.
3. Learning style. For many learners, producing language in a slower way is something they appreciate. Writing provides time and ease for learners more than face-to-face communication does.
4. Writing as a skill. The most important reason for teaching writing is that it is a basic language skill, just as important as speaking, listening and reading. Learners need to know how to write essays, how to put written reports together and how the writing system operates (for example, in terms of conventions such as punctuation, paragraph construction) just as they need to know how to pronounce language appropriately.

In other words, it can be summarized by Wingard's terminology (1981 as cited by Lázaro,1996: 90) as follows:

1. Writing as a channel of foreign language learning. It reinforces the grammatical structures, idioms and vocabulary that our students have been learning. Thus, some writing exercises might be introduced to consolidate language already presented and practiced orally.
2. Writing as a goal of foreign language learning. Students will have to communicate with other people in writing, that is why we could include some writing tasks (which have whole pieces of communication as their outcome,

rather than isolated sentences) to help learners develop the skills of communicating in writing.

Based on the references mentioned above it can be concluded that writing skill is very necessary and important for SMP students since it can be used not only to reinforce their linguistics skill but also to develop their communicative skill. Because of the reasons, the researcher then views the urgency of conducting a research on the students' writing skill.

However, writing skill is considered as the most complex and difficult skill to master for most people, both in mother tongue and in foreign language. Writing is considered as the most complex skill compared with the other three ones. On the comprehensive survey of L2 writing, Silva (1993: 668) found that in general L2 writers' texts were less fluent (fewer words), less accurate (more errors), and less effective (lower holistic scores). Richards and Renandya (2002: 303) also state that writing is the most difficult skill for L2 learners to master. The difficulty lies not only in generating and organizing ideas, but also in translating these ideas into readable text. The difficulty becomes even more pronounced if their language proficiency is weak. Based on the writer's experience as an English teacher since 1986, most Indonesian learners often encounter difficulties in transferring ideas they want to express from their native language into the target language. Moreover, English as foreign language in Indonesia is learned in limited time with some linguistic interferences and lack of language exposure needed to communicate. The problems can be identified both in the process of writing task and the final product of the text they composed.

The students' writing skill is influenced by internal and external factors. Internal factors include the psychological aspects, such as: learning motivation, intelligence quotient, creativity, etc. The external factors include social facilities, educational system, materials designs, teaching methods, learning environment, etc. This research chooses creativity and teaching methods as the representatives of both factors. Creativity is assumed having a significant contribution in developing the students' writing skill. Meanwhile, teaching methods used in the research are also predicted playing important roles in empowering the students' writing skill.

Direct Instruction (DI) is an instructional method that is focused on systematic curriculum design and skillful implementation of a prescribed behavioral script. Direct instruction is a general term for the explicit teaching of a skill-set using lectures or demonstrations of the material, rather than exploratory models such as inquiry-based learning. Direct instruction was founded by Siegfried Engelmann in 1964 at the University of Illinois Institute for Research on Exceptional Children. It is now well influencing curriculum, instruction, and research. Direct Instruction which is based on the learning theories of behaviourism then becomes the most common method used by traditional teachers in their classrooms. Usually it involves some explication of the skill or subject matter to be taught and may or may not include an opportunity for student participation or individual practice. Setiawan, et al. (2010: 9 – 12) states that there are several models of Direct Instruction proposed to apply in the classrooms. Dealing with the treatment to improve the students' writing skill, the Direct

Instruction model selected in the research consists of five phases of activity: orientation, presentation, structured practice, guided practice, and independent practice.

Meanwhile, Quantum method is about bringing joy to teaching and learning with ever-increasing 'Aha' moment of discovery. It helps teachers to present their content, a way that engages and energizes students. Based on Lozanov's ideas of Suggestopedia, Quantum teaching and learning methodology is then developed by DePorter and her associates. Based on the cognitive psychology, it tries to integrate best educational practices including learning and life skills, resulting in students who become effective lifelong learners-resposible for their own education into a unified whole as it has been applied and updated in SuperCamp since 1982. The brain-based methods used in SuperCamp, which have evolved from accelerated learning principles, are designed to unlock a student's full potential for learning and personal growth by: creating an optimal learning environment, involving the whole person in every learning exercise actively, and using various methods designed to actively engage students in their own learning. Dealing with the treatment to improve the students' writing skill in the research, Quantum method actually has a large number of writing techniques in its teaching learning process. Thus, the researcher needs to choose one of them. The Quantum Writing method conducted in this research consists of seven phases of treatment in learning and teaching process adopted from California Writing Project: preparing, drafting, sharing, revising, editing, rewriting and evaluating (DePorter & Hernacki, 2005a: 194 – 198).

Besides the teaching methods mentioned above, the students' creativity is also predicted having significant contribution in improving the effectiveness of students' writing skill. Sternberg and Lubart (1999: 3) in Villaba (2008: 10) maintains that "creativity is the ability to produce work that is both novel (i.e. original, unexpected) and appropriate (i.e. useful concerning tasks constrains)". Thus, it is predicted that creative students can perform better than others in activities that require design, imagination, or invention. Creativity in education can be viewed as innovative and adaptive thinking because of its ability to identify problems, form hypotheses, and apply novel and appropriate solutions to unfamiliar and open-ended tasks. At first, formal education prefers developing convergent thinking to divergent thinking in evaluation. However, scholarly interest in creativity ranges widely nowadays. Since its significant role in developing life skill, creativity (divergent/creative thinking) is also suggested and recommended to apply in our educational programmes besides convergent thinking.

The researcher predicts that the treatment of teaching methods used in the classroom viewed from the students' creativity is able to show the comparison among the variables observed in the research. Based on the authentic results of the research we can know not only the influences of teaching methods and creativity aspect but also the interaction happened in those variables toward the students' writing skill in the classroom. Based on the explanation above, the research will be conducted under the title The Effectiveness of Quantum Method to Teach Writing Viewed from Students' Creativity (An Experimental Research to

the Eighth Grade Students of SMP N 1 Bulukerto in the 2011/2012 Academic Year).

B. Problems Identification

Based on the background of the study stated earlier, various problems concerning with students' writing skill can be identified as follows:

1. Does Quantum teaching method influence the students' writing skill?
2. Does Direct Instruction teaching method influence the students' writing skill?
3. Does level of creativity influence the students' writing skill?
4. Do kinds of teaching method and creativity interact one another to influence the students' writing skill?

C. Problems Limitation

To avoid misinterpretation and ambiguity of the research, the researcher attempts to describe the limitation of the research. Actually there are a lot of problems which may influence the students' writing skill but in this research they will be limited in teaching methods (Direct Instruction and Quantum method) and the creativity psychological aspect.

The research focuses in the variables as mentioned above and tries to avoid and control other factors that may occur and influence this research. Related to the objectives for establishing cause-and-effect relationships between variables, the research employed an experimental method of 2 by 2 factorial design. The independent variables consist of the manipulative treatments (Quantum method and Direct Instruction method) as experimental variables (X_1) and the psychological aspect of the students' creativity (high and low) stated as attribute

variable (X_2). Meanwhile, the students' writing skill as the effect or results of the experiment becomes the dependent variables (Y). Besides the treatment and the effect of the variables determined above, the other extraneous variables are controlled to eliminate the intervening factors in the research.

D. Problems Formulation

The research problems are formulated as follows:

1. Is Quantum method more effective than Direct Instruction method to teach writing to the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year?
2. Do the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year having high creativity have better writing skill than those having low creativity?
3. Is there an interaction between teaching methods and students' creativity in teaching writing to the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year?

E. The Objectives of the Research

The experimental research carried out here is aimed at finding out whether:

1. Quantum method is more effective than Direct Instruction method to teach writing to the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year.

2. The eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year having high creativity have better writing skill than those having low creativity.
3. There is an interaction between teaching methods and students' creativity in teaching writing to the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year.

F. Benefits of the Study

Hopefully, this study is able to give some benefits for the students, teachers, and other researchers.

- By implementing Quantum method, the students will be facilitated to write well. Several brainstorming techniques (mind mapping, clustering, and fast writing) can be used by the students in exploring ideas creatively for their compositions. The students are also able to share their works one another to revise their compositions more consistent, comprehensive, and communicative based on the other students' feedbacks.
- Teachers can also get the advantages to empower their students' writing skills. Several references including the lesson plans stated in the appendices can be used for the teachers to experience in teaching writing skills by using Quantum method. The teachers are not only able to implement some suggestions the researcher recommend but also to improvise by themselves based on the descriptions of Quantum method in this work.
- Other researchers can get some benefits from this study, too. The references in this study can be used as additional informations to conduct further

research in the field by extending it to other levels and subjects. Some experiences and the results in teaching writing skill by using Quantum method in this study can also be utilized and analyzed.

CHAPTER II

REVIEW OF RELATED LITERATURE

A. Writing Skill

As mentioned in the previous chapter, there are four basic language skills. These will involve receptive skills: listening skill (understanding the spoken language) and reading skill (understanding written language) and productive skills: speaking skill (producing spoken language) and writing skill (producing written language).

Brown (1994: 325 – 326) mentions some characteristics of written language from the perspective of a writer's viewpoint as restated briefly and clearly by Hamadouche (2010: 15 – 16) as follows:

- Performance. Oral language is transitory and must be processed in real time, while written language is permanent and can be read and re-read as often one likes.
- Production time. Writers generally have more time to plan, review and revise their words before they are finalized, while speakers have a little or no time to do this.
- Distance. Distance between the writer and the reader in both time and space eliminates much of the shared context that is present between speaker and listener in face to face contact and this necessitates greater explicitness from the part of the writer.

- Orthography. Orthography in writing carries a limited amount of information compared to the richness of devices available to speakers to enhance a message (for example: stress, intonation, pitch, volume, pressing).
- Complexity. Written language tends to be characterized by longer clauses and more subordinators, while spoken language tends to have shorter clauses connected by coordinators, as well as more redundancy (repetition of nouns and verbs).
- Formality. Because of the social and cultural uses of which writing is ordinarily put, writing tends to be more formal than speaking.
- Vocabulary. Written texts tend to contain a wider variety of words, and lower frequency words, than oral speech.

1. Definition of Writing Skill

Yule (2010: 212) states that writing is the symbolic representation of language through the use of graphic signs. Unlike speech, it is a system that is not simply acquired, but has to be learned through sustained conscious effort. Not all languages have a written form and, even among people whose language has a well-established writing system, there are large numbers of individuals who cannot use the system.

Troyka (1987: 3 – 4) states that writing is a way of communicating a message to a reader for a purpose. The purposes of writing are to express one's self, to provide information for one's reader, to persuade one's reader, and to create a literary work.

According to Brown (2001: 334 – 337), the final product of writing is very important. It is often the result of thinking, drafting, and revising procedures that require specialized skills, skills that not every speaker develops naturally. Process is not the end; it is the means to an end. The product is, after all, the ultimate goal; the reason that we go through the process of prewriting, drafting, revising, and editing.

Based on the references above, the term of writing skill in this research is defined as a specific learned skill to express one's self, to provide information for one's reader, to persuade one's reader, and to create a literary work by procedure of thinking in planning, drafting and revising into the symbolic representation of language through the use of graphic signs.

2. Components of Writing Skill

Since the research is conducted not only academically but also professionally toward the students in SMP Negeri 1 Bulukerto, the researcher also pays attentions to KTSP (Kurikulum Tingkat Satuan Pendidikan – School-based Curriculum) used as the recent curriculum in Indonesia besides the theoretical constructs. Based on the Content Standard (Standar Isi) of KTSP, the main objectives of English writing skill in the eighth grade of Junior High School are stated as follows:

> *Standar Kompetensi*
> *12. Mengungkapkan makna dalam teks tulis fungsional dan esei pendek sederhana berbentuk recount dan narrative untuk berinteraksi dengan lingkungan sekitar*
> *Kompetensi Dasar*
> *12.1. Mengungkapkan makna dalam bentuk teks tulis fungsional pendek sederhana dengan menggunakan ragam bahasa tulis secara akurat, lancar dan berterima untuk berinteraksi dengan lingkungan sekitar*

> *12.2. Mengungkapkan makna dan langkah retorika dalam esei pendek sederhana dengan menggunakan ragam bahasa tulis secara akurat, lancar dan berterima untuk berinteraksi dengan lingkungan sekitar berbentuk recount dan narrative*

Based on the competency standard mentioned above, the main objective of English writing skill is that the students are able to express the functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment. Meanwhile, the basic competence is the students are able to express the meaning and the rhetorical steps in a short essay using a variety of simple written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

Lázaro (1996: 91 - 92) states that if one of the goals of the English teacher is to enable students to produce fluent, accurate, and appropriate written English, there are a number of aspects which need to be considered.

a. Purpose. Whatever the labels used, there should always be a c1ear purpose or reason for writing. Teachers have to keep this in mind when planning writing tasks. They should provide a context and a purpose to the writing activity. We could elicit a more authentic text so the purpose of the writing task is c1earer and more life-like.
b. Audience. Writing with a purpose means writing to an audience. If in real life we usually write something with a particular type of reader in mind, it is important that students also consider their audience when they write in class. The writing task should specify not only why they are writing, but also for whom.

c. Content. If writers are concerned about their audience, they should develop the content clearly and convincingly. The ideas should be relevant and deal with the topic or purpose suggested, without including unnecessary material or losing track of their subject. They also have to link ideas and information across sentences to develop their topic.

d. Organization. These ideas should be organised in a logical and coherent order. Careful planning is very important to organise the text properly.

e. Grammar and vocabulary. The writer's use of language should also be accurate. With attentive editing many mistakes can be avoided.

f. Mechanics and presentation. Punctuation and spelling are also essential elements, together with c1earwriting, margins, and consistent indentation.

Meanwhile, Raimes (1983: 6) describes the following diagram of what the writers deal with as they produce a piece of writing.

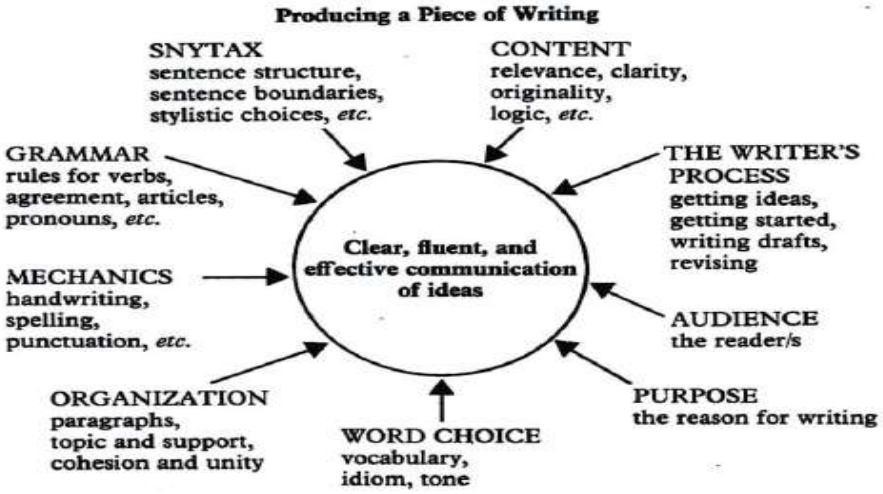


Figure 2.1 Raime's Producing a Piece of Writing

Brown (2004: 221) classifies linguistics aspects of writing into micro skills and macro skills as follows:

a. Microskills

1) Produce graphemes and ortographic patterns of English.
2) Produce writing at an efficient rate of speed to suit the purpose.
3) Produce an acceptable core of words and use appropriate word order patterns.
4) Use acceptable grammatical systems (e.g. tense, agreement, pluralisastion), patterns, and rules.
5) Express a particular meaning in different grammatical forms.
6) Use cohesive devices in written discourse.

b. Macroskills

1) Use the rhetorical forms and conventions of written discourse.
2) Appropriately accomplish the communicative functions of written texts according to form and purpose.
3) Convey links and connections between events, and communicate such relations as main idea, supporting idea, new information, given information, generalisation, and exemplification.
4) Distinguish between literal and implied meanings when writing.
5) Correctly convey culturally specific references in the context of the written text.
6) Develop and use a battery of writing strategies, such as accurately assessing the audience's interpretation, using pre-writing devices, writing with fluency in the first draft, using paraphrases and synonyms, soliciting peer and instructor feedback, and using feedback for revising and editing.

Harsyaf, et al. (2010: 3) states several sub-skills needed in writing skill. They are related with accuracy in using the correct forms of language and fluency in communicating messages successfully to other people in an appropriate style.

As mentioned before, writing skill is a specific learned skill to express one's self, to provide information for one's reader, to persuade one's reader, and to create a literary work by procedure of thinking in planning, drafting and revising into the symbolic representation of language through the use of graphic signs. Based on the various additional informations, it can be concluded that there are several components in writing skill as follows:

a. Sub-skills related to the accuracy in composing ideas correctly which includes grammar, vocabulary, and mechanics.
b. Sub-skills related to the fluency in communicating ideas appropriately which includes content, and organization.

The subskills above are used as indicators in the recent research. They are used as instructional objectives of the teacher's lesson plan in determining materials developments and assessment blueprints for students' achievement test items in the research instruments.

3. Difficulties in Writing Skill

Naturally writing is determined as the last skill to acquire and learn by children or students after listening, reading, and speaking skill. However, as mentioned in the previous chapter, among the language skills, writing skill is considered as the most complex and difficult skill to master for most people, both in mother tongue and in foreign language. Being compared with written receptive

language reading skill, writing as written productive language skill is recognized as more complicated to master. Moreover, as one of productive language skills besides speaking, writing is also considered as the difficult skill to master since it involves not only to transcribe graphic representation of their oral speech, but also to organize in different stylistic composition into the written product. It is experienced by most of the writers, especially for L2 writers (Silva,1993: 668).

Richards and Renandya (2002: 303) also states that the difficulty lies not only in generating and organizing ideas, but also in translating these ideas into readable text. The difficulty becomes even more pronounced if their language proficiency is weak.

4. Teaching Writing Skill

According to Lenneberg (1967) in Brown (1994: 319) writing is similar to swimming as culturally specific learned behaviours which means that somebody is able to do if someone else teaches him how. We learn to swim if there is a body of water available and usually only if someone trains us as we learn to write if we are members of a literate society, and usually only if someone guides us. Consequently, teachers need to guide and train their students to be able to express his ideas in the written form accurately and appropriately in their literate society.

Doff (1988) in Harsyaf, et al. (2010: 19 – 21) suggests some writing activities that teachers can use in introducing or guiding the students to various written text types as follows:

a. Controlled writing. The main importance of writing at this level is that it helps students to "learn". Written practices help to focus students' attention on what they learn. In doing so, the activities can be an integrated skill activity.
b. Guided writing. As soon as the students have mastered basic skills of sentence writing, students need to progress beyond very controlled writing to freer paragraph writing by giving a short text as a model or doing oral preparation for the writing based on suggested outline of the text.
c. Free writing. Students here are considered to be able to use the pattern they have developed to write a particular text type. Teachers can guide them to use various techniques of brainstorming to help them to write.

However, Brown (1994: 320) states that the traditional teachers were first mostly concerned with the final product of writing with a list of criteria such as vocabulary and grammatical use, spelling and punctuation, and the content of the text. Meanwhile, in the process oriented approach, students are encouraged to experiment with ideas through writing and share the writing they made. Shih (1986 as cited by Brown 1994: 320) states that the process approaches do most of the following:

a. focus on the process of writing that leads to the final written product;
b. help student writers to understand their own composing process;
c. help them to build repertoires of strategies for prewriting, drafting, and rewriting;
d. give students time to write and rewrite;
e. place central importance on the process of revision;

f. let students discover what they want to say as they write;
g. give students feedback throughout the composing process (not just on the final product) as they attempt to bring their expression closer and closer to intention;
h. encourage feedback from both the instructor and peers; include individual conferences between teacher and student during the process of composition. It means that teachers are supposed to help students in the process of writing and not only expect a good product from them.

Thus, the process approach, in contrast, stresses that writers go through in composing texts (Nunan, 1991 in Onozawa, 2010: 157).

Brown (1994: 327) then states five major categories of classroom writing performance as follows:

a. Imitative, or writing down. At the beginning level of learning to write, students will simply "write down" English letters, words, and possibly sentences in order to learn the conventions of the orthographic code.
b. Intensive, or controlled. Writing is sometimes used as a production mode for learning, reinforcing, or testing grammatical concepts. This intensive writing typically appears in controlled, written grammar exercises.
c. Self-writing. A significant proportion of classroom writing may be devoted to self-writing, or writing with only the self in mind as an audience.
d. Display writing. For all language students, short-answer exercises, essay examinations, and research reports will involve an element of display.

e. Real writing. Some classroom writing aims at the genuine communication of messages to an audience in need of the messages for academic, vocational/technical or personal subcategories.

Since writing is a composing process and usually requires revised drafts before an effective product is created, make sure that students are carefully led through appropriate stages in the process of composing. At least there are three main stages of the writing process: preparing to write, drafting, and revising (Brown & Hood, 1998 in Harsyaf, et al., 2010: 7) as described in the picture below.

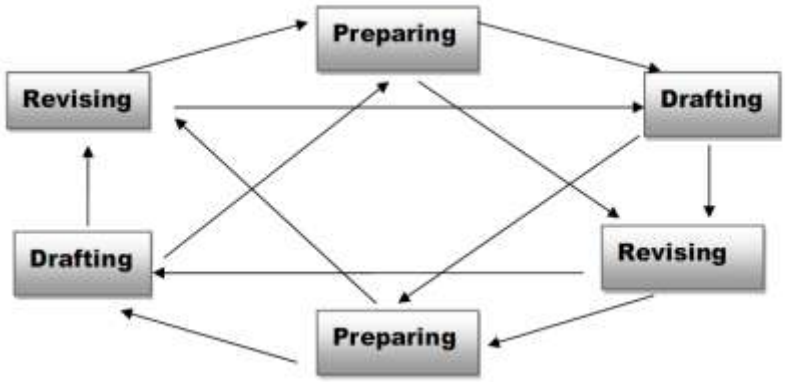


Figure 2.2 Main Stages of Writing Process

a. Preparing to write. This phase is also called as the stage of planning or pre-writing. In this stage students gather their information, and begin to organize it into a cohesive unit, such as: generating ideas, organizing ideas, and goal setting by using brainstorming technique.

b. Drafting. It is the process or the stage in which writers render through into visible language, or we can call it as the physical act of writing. Here, the student transfers the information they have gathered and organized into a traditional format.

c. Revising. Revising can include adding, deleting, rearranging and substituting words, sentences, and even entire paragraphs to make their writing more accurately represent their ideas. It is often not a one-time event, but a continual process as the paper progresses.

Seow (2002) in Richards and Renandya (2002: 315 – 320) also states that process writing as a classroom activity incorporates the four basic writing stages – planning, drafting (writing), revising (redrafting), and editing – and three other stages externally imposed on students by the teacher, namely: responding (sharing), evaluating, and post-writing.

5. Testing Writing Skill

Writing is one of the most difficult skills to test because of its complex nature. Many scholars assert that there are many elements to be considered in measuring the writing ability. Wilkinson (1989 in Al-Makhzoomi, 2011: 144) states that these elements include form, content, grammar, vocabulary, mechanics (including spelling and punctuation), handwriting, accuracy, style, diction, relevance, originality, elaboration, layout, coherence, cohesion, unity, organization, and logic. Based on the reference, we understand the complexities in testing writing skills since there are too many categories of elements as well as possible assignments and evaluations with their scoring criteria. However, there are some academical experts' suggestions to be guidances in testing writing skill in the classroom.

Weir (1990) in Bennu, et al. (2010: 34 – 37) mentions a number of tasks for assessing writing skill as follows:

a. Grammar and structure

1) Editing task

2) Error-recognition items

3) Re-arrangement

b. Controlled writing

1) Sentence and paragraph completion

2) Form-filling

3) Partial writing

4) Error-recognition items

c. Free writing/composition test

1) Choosing subjects

2) Writing for a purpose

3) Writing for an audience

Meanwhile, Brown (2004: 221 – 248) describes a number of possible writing tasks according to their level of linguistic complexity as follows:

a. Imitative writing

1) exercises in handwriting letters, words, and punctuation

2) keyboarding (typing) exercises

3) copying

4) listening cloze selection tasks (listen and write)

5) picture-cued writing exercises

6) completing forms and questionnaires

7) converting numbers and abbreviations to words and phrases

8) spelling tasks

9) one-word dictation tasks

b. Intensive (controlled) writing

1) dictation of phrases and simple sentences

2) dicto-comp (rewrite a story just heard)

3) grammatical transformation exercises

4) picture description tasks

5) use vocabulary in a sentence

6) ordering tasks (re-order a list of words in random order)

7) short-answer tasks

8) sentence completion tasks

c. Responsive writing

1) paraphrasing

2) guided writing, e.g., question and answer

3) paragraph construction tasks (topic sentence, main idea, etc.)

4) responding to a reading or lecture

d. Extensive writing

1) essay writing tasks

2) tasks in types of writing (narrative, description, argument, etc.)

3) tasks in genres of writing (lab report, opinion essay, research paper)

Meanwhile, Brown and Bailey (1984: 39 – 41) in Brown (2004: 243 – 245) propose analytic scale for rating composition in the following table 2.1.

Table 2.1 Analytic Scale for Rating Composition Tasks

	5	4	3	2	1
1.Organization	Appropriate title, effective introductory paragraph, topic is stated, transitional expressions used, arrangement of material shows plan; supporting evidence given for generalizations; conclusion logical and complete	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidence may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression s may be absent or missused	Mediacro or scant introduction or conclusion; problems with the order of ideas in body; the generalizations may not be fully supported by the evidence given; problems of organization interfere	Shaky or minimally recognizable introduction; organization can barely be seen; severe problems with ordering of ideas; lack of supporting evedence; conclussion weak or illogical; inadequate effort at organization	Absence of introduction or conclusion; no apparent organization of body; severe lack of supporting evedence; writer has not made any effort to organize the composition
2.Content	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material; essay reflects thought	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material is present	Development of ideas not complete or essay is somewhat off the topic; paragraphs aren't divided exactly right	Ideas incomple; essay doesn't reflect careful thinking or was hurriedly written; inadiquate effort in area of content	Essay is completely inadequate and doesn't reflect high school level work; no apparent effort to consider the topic carefully
3.Grammar	Native-like fluency in English grammar; correct use of relative clauses, prepositions, modals, articles, verb forms, and tense squencing; no fragments or run-on sentences	Advanced proviciency in English grammmar; some grammar problems don't influence communication, although the reader is aware of them; no fragments or run-on sentences	Ideas are getting through to the reader, but grammar problems are apparent and have a negative effect on communication; run-on sentence or fragments present	Numerous serious grammar problems interfere with communication of the writer's ideas; grammar review of some areas clearly needed; difficult to read sentences	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligeble sentence structure
4.Punctuation, spelling, and mechanics	Correct use of English writing conventions; left and right margins, all needed capitals, paragraphs indeed, punctuation and spelling; very neat	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and lagible	Uses the general writing conventions but has errors; spelling problems distruct reader; punctuation errors interfere with ideas	Serious problems with format of paper; parts of essay not legible; errors in sentence punctuation; unecceptable to educated readers	Complete disregard for English writing conventions; paper illegible; obvious capitals missing, no margins, severe spelling problems
5.Vocabulary	Precise vocabulary usage; use of parallel structures; concise; register good	Attempts variety; good vacabulary; not wordy; register OK; style fairly concise	Some vocabulary misused; lacks awareness of register; may be too wordy	Poor expression of ideas; problems in vocabulary; lack of variety of structure	Inappropriate use of vocabulary; no concept of register of sentence variety

As the curricular goals and students' needs vary, the analytical scoring of essay may be appropriately tailored. Level of proficiency can make a significant difference in emphasis. Jacobs, et al. (1981 in Brown, 2004: 246) suggest the

analytical scoring profile in which five slightly different categories were given the point values as follows:

Content	= 30
Organization	= 20
Vocabulary	= 20
Grammar/Syntax	= 25
Mechanics	= 5
Total	= 100

6. Construct and Indicators of Writing Skill

In this research writing skill becomes the dependent variables (Y) stated as the effect or results of the experiment. Meanwhile, the independent variables consist of the manipulative treatments (Quantum method and Direct Instruction method) as experimental variables (X_1) and the psychological aspect of the students' CQ (Creativity Quotient) as attribute variable (X_2). Both independent variables (X) are the variables that are presumed to give influence or contribution to the students' writing achievement as dependent variable (Y).

a. Construct of Writing Skill

The researcher needs to determine the construct and indicators of writing skill in this research by reviewing synthetically all of the related theoretical concepts mentioned above. Construct is a concept with a specified constructed meaning given to it by a researcher. It is used in the recent research as a basis to determine the competence indicators for students in their achievement test, and to

develop the materials developments for teachers in their instructional goals. The following are brief summaries of the constructs of writing skill in the research.

1) The definition of writing skill

Writing skill is a specific learned skill (*significant competence*) to express one's self, to provide information for one's reader, to persuade one's reader, and to create a literary work (*writer's purpose*) by procedure of thinking in planning, drafting and revising (*composing process*) into the symbolic representation of language through the use of graphic signs (*final product*).

2) The components of writing skill

Two main components in writing skill are: (1) microskills related to the accuracy in composing ideas correctly which includes grammar, vocabulary, and mechanics; (2) macroskills related to the fluency in communicating ideas appropriately which includes content, and organization. Both components and their sub-skills can be used as materials developments for teachers in their instructional goals and assessment indicators for students in their achievement test. Thus, in this research five subskills are used as the indicators in teaching and testing writing skills, namely: content, organization, grammar, vocabulary, and mechanics.

3) Teaching writing skill

There are some approaches, methods, and techniques in teaching writing skill in the classroom. Two main approaches of them are product oriented approach and process oriented approach.

Writing skill in the product oriented approach was mostly used by traditional teachers as a channel to reinforce and develop the grammatical structures, vocabulary items or text models that students have learned. Since writing is a composing process before an effective product is created, the students are carefully led through appropriate stages deductively in the process of composing. Microskills categories related to the accuracy in composing ideas correctly are stressed in the final product of students' writing. In this research Direct Instruction method is used to conduct this role. Direct Instruction is predicted as an effective method to teach writing skill especially toward low level students. Dealing with the treatment to improve the students' writing skill, the Direct Instruction method conducted in the control class consists of five phases of activity: orientation, presentation, structured practice, guided practice, and independent practice (Setiawan, et al., 2010: 9 – 12).

Meanwhile, in the process oriented approach writing skill is taught as a goal to communicate ideas. The students are encouraged to experiment with ideas through main stages of the writing process: prewriting, brainstorming, drafting, revising, editing, etc. Macroskills categories related to the fluency in communicating ideas appropriately are stressed in the final composition of students' writing. The representative method used in this research is Quantum method. Quantum is predicted as an effective method to teach writing skill especially toward high level students in composing the text creatively. The Quantum Writing method conducted in the experimental class consists of seven phases of treatment process adopted from California Writing Project: preparing,

drafting, sharing, revising, editing, rewriting and evaluating (DePorter & Hernacki, 2005a: 194 – 198).

4) Testing writing skill

There are a number of possible tasks and some writing criteria for assessing writing skill can be conducted based on the teaching methods applied in both classes (Quantum method in the experimental class and Direct Instruction method in the control class). The possible tasks in assessing writing skill can be used as: (1) a channel to reinforce and develop basic microskill of grammatical structures, vocabulary dictions, and mechanics conventions that students have learned imitatively and intensively; and (2) a goal to generate and communicate ideas according to basic macroskills of ideas organization and content relevancy in the text models that students have learned responsively and extensively. Thus, both the accuracy of the learners' basic skills in writing simple texts (words, sentences, etc) and the fluency of the learners' advance subskills in writing textual composition (paragraphs, types of texts, etc) appropriately are assessed here.

Since writing is a composing process, the composition test in essay form becomes the final test for the students in the experimental and control classes. The table of specifications in testing writing skill are suitable with the indicators used in the lesson plans in teaching writing skill. They are three microskills (grammar, vocabulary, and mechanics) and two macroskills (content and organization). The scoring rubrics ranges analytically from 5 to 1 for excellent to good (5), good to adequate (4), adequate to fair (3), unacceptable (2), and not high school- level work (1) of the students' composition works based on every criteria stated above.

The analytical scoring of essay profile in which five slightly different categories suggested by Jacobs, et al. (1981 in Brown, 2004: 246) is used in the research as follows: content (30), organization (20), vocabulary (20), grammar/ syntax (25), and mechanics (5). Thus, 100 is the total of maximum score.

b. The indicators of writing skill

As mentioned above, five subskills are used as the indicators to determine the respondents' writing achievements in teaching and testing writing skills in this research as follows:

1) Grammar

Grammar is one of the microskill in writing skill. The writer's use of language should be correct in grammatical structures. The constructed indicator for the subskill of grammar in this research is: the students are able to use accurate grammar in the composition correctly.

2) Vocabulary

It includes style, vocabulary, and quality of expression. Vocabulary is one of the microskill in writing skill. The writer's use of language should be accurate in dictions. The constructed indicator for the subskill of vocabulary in this research is: the students are able to use appropriate vocabulary in the composition accuratetly.

3) Mechanics

It includes punctuation, spelling, and mechanics. Mechanics is also one of the esensial microskill in writing skill. The writer's use of language should be accurate in mechanics, punctuation, spelling, capitalization, clearwriting,

margins, and consistent indentation. The constructed indicator for the subskill mechanic in this research is: the students are able to use mechanics (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly.

4) Content

The macroskill of content is related with the purpose (reason) and audience (readers). The writing task should specify not only why they are writing, but also for whom. There should always be a c1ear purpose or reason for writing texts authentically and logically. The ideas should be relevant and deal with the topic or purpose suggested. It includes logical development of ideas. The constructed indicator for the subskill of content in this research is: the students are able to accomplish the content of communicative function in the composition fluently.

5) Organization

In writing composition text, the students generate, explore, select, and express their ideas. The ideas should be organised in a logical and coherent order. It includes introduction, body, and conclusion. The constructed indicator for the subskill of organization in this research is: the students are able to arrange the organization of ideas in the composition logically.

B. Teaching Method

Teaching English as a foreign language requires the use of appropriate learning method. Teaching method is one of the external factors in determining the success of learning. The selection of the appropriate teaching method

implemented in the teaching learning process determines the better result on students' writing skill in the classroom.

Teaching English as a foreign language requires the use of appropriate learning method. However, there are some different definitions related the conceptual terminology of the word "method" (Brown,1994: 48 – 51). Anthony (1963: 63 – 67) in Brown (1994: 48) provides a definition of "method" as the second of three hierarchical elements, namely approach, method, and technique. An approach is a set of assumptions dealing with the nature of language, learning, and teaching. Method is described as an overall plan for systematic presentation of language based upon a selected approach. Techniques are the specific activities manifested in the classroom that were consistent with a method and therefore were in harmony with an approach as well. Meanwhile, Richards and Rodgers (1982: 153 – 158; 1986: 16) in Brown (1994: 48) proposes a reformulation of the concept of "method." Anthony's approach, method, and technique were renamed, respectively, approach, design, and procedure, with a superordinate term to describe this three-step process, now called "method." A method is "an umbrella term for the specification and interrelation of theory and practice". An approach defines assumptions, beliefs, and theories about the nature of language and language learning. Designs specify the relationship of those theories to classroom materials and activities. Procedures are the techniques and practices that are derived from one's approach and design. Based on some considerations above, Brown (1994: 51) suggests a set of definitions in the methodology. Methodology is the study of pedagogical practices in general including theoretical

underpinnings and related research. Whatever considerations in “how to teach” are methodological. Approach is theoretical positions and beliefs about the nature of language, the nature of language learning and the applicability of both to pedagogical settings. Method is defined as a generalized set of classroom specifications for accomplishing linguistics objectives. Technique is any of a wide variety of exercises, activities, or devices used in the language classroom for realizing lesson objectives. Curriculum or Syllabus is a design for carrying out a particular program.

Beside the definitions mentioned above, Sudrajat (2008: 1 – 3) also states there are other technical terms in methodology as follows:

1. Learning approach

The learning approach is the idea underlying the process of formation or development of students' knowledge to achieve the goal of learning/ education. It can also be interpreted as a point of view refers the occurrences of natural process which enclose, inspire, strengthen, and underlie learning methods with particular theoretical coverage. There are two types of learning approaches, namely: (1) student centered approach and (2) teacher-centered approach.

2. Learning strategy

Learning strategy is a learning activity conducted by teachers and students so that learning objectives can be achieved effectively and efficiently. Based on the way of presenting and processing means, learning strategies can be distinguished between inductive and deductive learning strategies. Learning strategy is still conceptual in nature and used various methods to implement

specific learning. In other words, the strategy is "a plan of operation achieving something" while the method is "a way to achieving something".

3. Learning methods

Learning methods are the means used to achieve the goal of learning based approach that has been determined. Thus, the learning method can be interpreted as the means used to implement the plans which are constructed in the form of real and practical activities to achieve learning goals. There are several methods of learning that can be used to implement learning strategies, including: (1) lectures; (2) demonstration; (3) discussion; (4) simulation; (5) laboratory; (6) field experience; (7) brainstorming; (8) debates; (9) symposium; and so on.

4. Learning techniques

Learning techniques can be done one way in implementing a specific method. For example, use the lecture method in a class with a relatively large number of students requires its own technique technically different from the lecture method on the limited students. In this case, the teacher can keep changing techniques even in the corridors of the same method.

5. Learning tactics

Learning tactics is the individualized style of a person in carrying out certain teaching methods or techniques. In the style of learning would seem uniqueness or distinctiveness of each teacher, according to his ability, experience and personality types of teachers are concerned. In this tactic, the learning will become a science as well as art.

6. Learning model

The approaches, strategies, methods, techniques and even tactics learning are already strung into a single coherent whole forms what is called as a model of learning. So, the learning model is basically a form of learning which is reflected from the beginning to the end that is typically presented by the teacher. In other words, the learning model is a wrap or a frame from the application of an approach, methods, and techniques of learning. Learning model is built upon a number of elements and should be based on Learning theory. There are three main categories or philosophical frameworks under which learning theories fall: behaviorism, cognitivism, and constructivism. Behaviorism focuses only on the objectively observable aspects of learning. Cognitive theories look beyond behavior to explain brain-based learning. Constructivism views learning as a process in which the learner actively constructs or builds new ideas or concepts.

Reigeluth (1999: 5-29) in Huitt, et al. (2009: 77) identifies 3 criteria to evaluate how well a method works in achieving instructional outcomes: effectiveness, efficiency, and appeal. Effectiveness requires that appropriate indicators of learning (such as specific levels of achievement and fluency) be identified to objectively measure the learning outcomes. Efficiency requires an optimal use of resources such as time and money to obtain a desired result. Level of appeal relates to the degree to which learners enjoy the instruction and can be especially effective in motivating students to stay engaged on task. Some educators, especially those espousing a child-centered approach, suggest this last criterion should take precedence over the other two. However, this is problematic

in that the academically relevant content public schools must cover as part of their charge can require copious time and effort on the part of many students. As a result, immediate satisfaction and enjoyment of the instruction may be difficult to obtain.

This research uses two methods: Quantum and Direct Instruction method. Being academic researcher, professional teacher, and problem solver at once, we need to know the conceptual theories wholy, apply the procedural techniques skilfully, and overcome the contextual problems wisely. The descriptions of Quantum and Direct instruction methods in this research are described as follows:

1. Quantum Method

The term Quantum is analogically derived from Physics. In Physics Quantum means the interaction which changes the energy into a light. However, the principles of Quantum Learning are not derivation, adaptation, modification, or transformation of Quantum physics. Quantum learning is based on cognitive psychology, not Quantum physics (Sugiyanto, 2008: 67).

DePorter & Hernacki (2005a: 3) use the term of 'Quantum' in their educational learning model and they define the Quantum learning as the interaction which changes the energy into a light since all of the life is actually energy. Our body is physically matter. As learners, our goals is gaining as much as lights, interactions, relationships, inspirations to gain light energy.

Sugiyanto (2008: 69 -74) also states common characteristics of quantum learning as follow:

a. Quantum learning is based on cognitive psychology, not quantum physics. Therefore, the views about teaching, learning, and learners derived, transformed, and developed from the various theories of cognitive psychology; not from the theories of quantum physics.
b. Quantum Learning is more humanistic, not a positivistic-empirics, "animalistic", and or nativistic. Human being as the learner becomes the center of attention. The self-potence, mind capability, motivation power, and so forth of the learners are ensured to develop optimally. Reward and punishment is not conducted since in humanistic perspective all human efforts need to be appreciated.
c. Quantum Learning is more constructivistic, rather than positivistic-empiric, behavioristic. Therefore, the nuance of constructivism in quantum learning is relatively strong. Quantum learning emphasizes the importance of environmental role to realize effective and optimal learning. Quantum learning integrates, synergizes, and elaborates the self-potence of human being as self-learner with the physical and mental environment as a learning context. The quantum learning does not distinguish between what is inside and what outside. In the view of quantum learning, mental-physical environment and the ability of the human mind are equally important and mutually supportive.
d. Quantum Learning focuses on qualified and meaningful interaction, not just a transaction of meaning. The interaction has become the key words and central concepts of quantum learning. Therefore, learning quantum emphasizes the importance of qualified and meaningful interaction in frequency and

accumulation. The learning process is viewed as the creation of qualified and meaningful interactions which can change the mind ability and natural talent energy of the learners into the lights that are beneficial to the success of learners.

e. Quantum learning accelerates great emphasis on the accelerated learning with a high degree of success. Accelerated learning here is assumed as a quantum leap. In short, according to quantum learning, the learning process must take place quickly with high success. Thus, all the barriers and obstacles making the learning process slowly should be avoided, removed, or eliminated. On other side, all supporting the accelerated learning should be created and managed very well.

f. Quantum learning emphasizes natural and authentic learning process, not artificial and pretended one. Natureness and authenticity cause the learning atmosphere comfortable and enjoyable, not stressed and boring. Therefore, learning must be designed, presented, managed, and facilitated to create natural and authentic learning process.

g. Quantum learning emphasizes quality and the meaningfulness of the learning process. The learning process which is neither qualified nor meaningful produces failure, the learning goals are not achieved successfully. Therefore, all efforts that enable the realization of the significance and qualified learning must be done by the teacher or facilitator. In this context the presentation of qualified and meaningful learning experiences should be accommodated

adequately. The base principle of “bring their world to our world and move our world to their world” should be performed in balance.

h. Quantum Learning has a model that combines the context and content of learning. Context includes the empowering atmosphere, solid foundation, supporting environment and dynamic lesson plan. Contents include excellent presentation, flexible facility, learning to learn skills and life skills. Context and content are inseparable and mutually supportive each other as a symphony orchestra. The separation of context and content will cause the failure of learning. On the other hand, the harmony integration of context and content will lead functionally to high learning success; as a perfect symphony conducted in an orchestra.

i. Quantum learning focuses in empowering academic skills, skills in life and physical/material achievements. All, not only one of them, must be considered, treated, and managed in relatively balanced and equally similar in the learning process. Since the success of learning is not only in empowering the learners’ academic skills and physical achievements but also in empowering the learners’ life skills. Thus, curriculum should be composed to realize harmonious combination of academic skills, life skills, and physical achievement.

j. Quantum learning occupies values and beliefs as an important part of the learning process. Without certain values and beliefs, the learning process becomes less meaningful. Therefore, learners must have certain values and beliefs in the learning process. In addition, the learning process should implant

positive values and beliefs for learners. Value and negative beliefs will bring about the failure of the learning process. For example, learners need to have confidence that the error or failure is just a sign of learning; not a sign of the stupidity or the end of everything. In the learning process punishment and reward are not necessary because every effort must be recognized and appreciated. Positive values and beliefs should be continuously developed and strengthened. The more powerful and stable positive values and beliefs held by learners, the higher chances of success in learning. These values will become glasses through which we view the world. We evaluate, determine priority, assess and behave based on the way we see life through the glasses.

k. Quantum learning prioritizes diversity and freedom, rather than uniformity and order. The diversity and freedom can be said as a keyword beside interaction. Therefore, Quantum learning develops greetings: "Welcome to the diversity and freedom, goodbye uniformity and order!" Here the diversity of students' learning styles, activities and methods are recognized, developed and used.

l. Quantum learning integrates the totality of body and mind in the learning process. Total activity between body and mind makes the learning more comfortable to gain more optimal results.

Meanwhile, DePorter (2010: 2) states that Quantum learning – the teaching methodology used at SuperCamp – is a synergistic approach to the learning process. It's an engaging and exciting learning experience for students. It's the best ways of teaching all put together in a fast and fun way to help

students learn and succeed. The FADE model — Foundation, Atmosphere, Design, Environment — creates the context of Quantum Learning. The context is strong, it 'fades' into the background and creates the structure for learning to occur.

a. Quantum Learning begins with a strong foundation built on the principles of the 8 Keys of Excellence. It holds the beliefs that: All people can learn, people learn differently, and learning is effective when it is joyful, engaging and challenging.

1) The 8 Keys of Excellence include:

a) Integrity — Match behavior with values. Demonstrate your positive personal values in all you do and say. Be sincere and real.

b) Failure Leads to Success— Learn from mistakes. View failures as feedback that provides you with the information you need to learn, grow, and succeed.

c) Speak with Good Purpose— Speak honestly and kindly. Think before you speak. Make sure your intention is positive and your words are sincere.

d) This Is It! —Make the most of every moment. Focus your attention on the present moment. Keep a positive attitude.

e) Commitment—Make your dreams happen. Take positive action. Follow your vision without wavering

f) Ownership—Take responsibility for actions. Be responsible for your thoughts, feelings, words, and actions. “Own” the choices you make and the results that follow.

g) Flexibility—Be willing to do things differently. Recognize what's not working and be willing to change what you're doing to achieve your goal.

h) Balance—Live your best life. Be mindful of self and others while focusing on what's meaningful and important in your life.

The 8 Keys of Excellence can be integrated into all subjects and grade levels. The 8 Keys are best implemented when parents and community leaders support and reinforce the Keys.

2) The Quantum Learning framework for student learning is expressed in 5 Tenets of Learning:

a) Everything Speaks – What you say and how you say it sends message.

b) Everything is on Purpose – Everything has an intended purpose – everything.

c) Experience Before Label – Learning happens best when information is experienced before it's labeled.

d) Acknowledge Every Effort – Students are acknowledged for stepping out of comfort zones, for both their competence and their confidence.

e) If It's Worth Learning, It's Worth Celebrating! – Celebration provides feedback regarding progress and increases positive emotional associations with the learning.

b. Quantum Learning creates an empowering atmosphere of trust, safety, and a sense of belonging. Establishing engaging, focused traditions creates a sense of belonging and safety and is an effective strategy for classroom management, focusing attention and motivating students to increase participation in learning. Each school day begins with a morning routine and

purposeful first statement. These routines are designed to immediately focus students and create resourceful learning states.

c. Quantum Learning Design Frame that drives the presentation and facilitation of content was formulated from many years of research on effective delivery methods and is the structural frame upon which content is designed to ensure student mastery. The elements (that are aligned with Lozanov's learning cycle) are:

1) Enroll—Use teacher moves that capture the interest, curiosity and attention of the students.
2) Experience—Create or elicit a common experience, or tap into common knowledge to which all learners can relate. Experience before Label creates schema on which to build new content.
3) Learn & Label—Present, sequence and define the main content. Students learn labels, thinking skills and academic strategies. Students add new content to their existing schema.
4) Demonstrate—Give students an opportunity to demonstrate and apply their new learning.
5) Review and Reflect—Use a variety of effective, multi-sensory review strategies and empower students to process their new content through reflection.
6) Celebration—Acknowledge the learning. It cements the content and adds a sense of completion.

In Indonesian this design is translated as: *Tumbuhkan, Alami, Namai, Demonstasikan, Ulangi* and *Rayakan* which is abbreviated as TANDUR.

d. Quantum Learning creates a supportive physical environment that enhances and reinforces learning. Ideal learning environments include proper lighting, purposeful color, positive affirmation posters, plants, props and music. These elements are easy to include in one's classroom, and students enjoy learning more in a comfortable setting. The key is to create empowering school environments that build engaging and dynamic communities of learning. The results are enhanced teacher capacity and increased student achievement.

Quantum Learning is a powerful and engaging teaching and learning methodology that integrates best educational practices into a unified whole. This synergistic approach to the learning process covers both theory and practice. It has been proven to increase academic achievement and improve students' attitudes toward the learning process. These integrated, comprehensive programs turn abstract theory into practical applications that can be used immediately in the classroom.

a. Concept of Quantum Method

Quantum Learning is an all-inclusive model of learning that has its origins in several different learning theories including: Right/left brain theory, Experiential learning, Modality preferences (visual, auditory, kinesthetic), etc (DePorter & Hernacki, 2005a: 16). Quantum Learning combines suggestology, accelerated learning techniques, NLP (Neuro-Linguistics Programming) with their own theories, beliefs and methods, including other key concepts and learning strategies, such as: right/left brain theory, three-in-one brain theory, modality

preferences (visual, auditory, kinaesthetic), multi-intelligence theory, holistics education, metaphoric learning, simulation gaming. There are a lot of conceptual terminology and learning strategy used in Quantum learning besides all mentioned above. Quantum learning is too complicated since it also absorbs too many good references from other various sources.

The term of Quantum Learning can be distinguished with Quantum Teaching. Quantum Teaching is research-based and employs exemplars in education to make education a holistic opportunity bringing meaning and relevancy to students (DePorter, Reardon, & Singer-Nourie, 2005b: 3). In addition, DePorter, Reardon, & Singer-Nourie (2005b: 5) defines Quantum Teaching as the orchestra of various interactions in and around the learning moment containing many aspects of learning effectiveness which influences the student's achievement. Quantum Teaching is also said much like a symphony (DePorter, Reardon, & Singer-Nourie, 2005b: 8). There are many elements in the learning experience. These elements are put into two categories: context and content. Context is the setting. It focuses on the atmosphere, the foundation, and the design of the classroom. Content is equally important as the context. Learning occurs when skills are presented in a manner that allows students to explore and discover the wonders of the material being taught to them. Students will not only have opportunity to learn content, but also discover their learning styles and develop some life skills that will help them take greater responsibility for the choices they make.

DePorter, Reardon, & Singer-Nourie (2005b: 6) state that basically Quantum Teaching rests on the concept: Theirs to Ours, Ours to Theirs ("Bring their world to our world and move our world to their world."). It is Quantum's Prime Directive behind all of the strategy and model of Quantum Teaching. It is important for a teacher to enter the students' world first. Before a student wants to know what a teacher knows, they need to know that the teacher cares about them. Teaching is the rights given by students not just the authority allowed because of our professional certificate. It has to reach by every teacher. At SuperCamp the strategy *WIIFM* (what's in it for me) is used to help young people gain motivation is to position challenges and opportunities in the context of what the end benefit is for them. In Indonesian this term is abbreviated as: *AMBAK (Apa manfaatnya bagiku).* In short, the key point is having good connection to communicate with students. Communication is important: it's the universal relationship fuel. Communication grows relationships – relationships grow success. So, enter their world first since it can give our rights to lead, guide, and teach them our world next.

b. Procedure of Quantum Method

Dealing with the writing skill, Quantum method uses various techniques conducted in SuperCamp teaching learning process (DePorter, 2010: 18 – 19). In the Junior Forum Quantum Writing course – POWER Writing – gives students a clear framework for organizing their approach to a writing assignment. POWER stands for Pre-Write, Organize, Write, Edit, and Revise. Meanwhile, the Senior Forum Quantum Writing course centers around a straightforward process: Plan It,

Write It, and Polish It. This process enables students to gain confidence about their writing ability. In this way, writing becomes a freeing experience rather than a chore.

DePorter & Hernacki (2005a: 179) states that writing is a whole brain activity using right and left hemisphere. It means that in writing we need not only using our logic (left-brain hemisphere: outlining, grammar, etc) but also involving our emotion (right-brain hemisphere: enthusiasm, imagination, etc). Although writing skill completely needs both, naturally we should give precedence and energize our right-brain first since the essence of writing is expressing and communicating ideas fluently. Being expressive and communicative, we need the role of right-brain. Thus, at first teachers should let or even motivate students to break their 'left-brain' mental barrier (anxiety of making grammatical mistakes, pressure of adapting conventional outlines, etc). Being free as human being naturally, the students will be able to utilize their creative intelligence enthusiastically to imagine, explore, invent, generate, and select ideas they need to express and communicate. At last, after the 'right-brain' enables students in expressing and communicating their ideas fluently, 'left-brain' then plays its role to revise all grammatical mistakes and edit the composition in the required conventional format correctly. By using the first process of brainstorming ('right-brain') in the prewriting stage, the students are finally able to draft their fluent communication. By using the last process of revising and editing ('left-brain') in the next stage, the students then improve their writing into correct composition.

This research applies the complete procedures of California Writing Project suggested by DePorter & Hernacki (2005a: 194 – 198) consisting of seven phases of activity: preparing, drafting, sharing, revising, editing, rewriting, and evaluating as follows:

1) Preparing

In the first phase the students build a strong base for the topic based on their own experience and knowledge. Brainstorming techniques, clustering, and fast writing, can be used in exploring ideas creatively for their compositions.

Brainstorming is the process of freeing mind to come up with ideas. One can brainstorm alone, with a partner or in a group. Brainstorming can be used to choose a topic, develop an approach to a topic, or deepen the understanding of the topic's potential. There are several brainstorming techniques suggested in Quantum Writing method as follows:

a) Mind Mapping. Mind mapping technique popularized by Tony Buzan is a creative way to organize ideas as well as to memorize a lot of informations. Dreyden and Vos (2004 in Sugiyanto, 2008: 90) define mind mapping as whole brain functioning technique by using visual graphics to form image. Since brain works in storing and stating ideas as associated patterns like a tree and its branches, this technique visualizes informations and connects them as conceptual images in our mind. By using mind mapping, we can not only memorize informations more impressively but also verbalize our ideas more communicatively.

b) Clustering. Clustering developed by Gabriele Rico is also called grouping, branching, mapping, or webbing. It is a brainstorming technique to select correlating ideas and put them into the paper without any considerations of their truth and values. It is one of the pre-writing structured technique used to invent and develop ideas by writing the words or phrases in series of circles or bubbles and connecting lines to indicate and associate the relationship of ideas. The writers keep on writing, circling, and connecting the ideas along the process into the "Aha!" shift, the ‘show-time’ to express all ideas in their written text. Clustering and Mind mapping technique have similarities since both based on the same theory and function. They help the writers enable to see and make relationship of ideas, develop expressing ideas, and trace thinking to gain a certain concept (DePorter & Hernacki, 2005a: 180 - 182).

c) Fast Writing. Fast Writing technique can overcome the difficulties in writing. When the writers do fast writing on a certain topic, they free up their internal critic in a required time or space limit and just write all of exploring ideas without stopping or correcting anything. They must let their thoughts flow to write down. Before the process ends, they shouldn’t judge the quality of what they write and they don't worry about style or any surface-level issues, like spelling, grammar, or punctuation. All of them can be revised and improved after the brainstorming process of fast writing has been finished. The students must keep on writing whatever comes into their mind as quickly as possible. The crucial point here is not trying to be perfect all at once since it seldom

happens. The best writers even commonly begin their writing works with the imperfect drafts (DePorter & Hernacki, 2005a: 186).

d) Show Not Tell. Show Not Tell is a technique developed by Rebekah Kaplan to help students write so that they are able to create a picture in the reader's mind, to get away from the repetition of such empty words. Since amazing description makes students' writings more alive and poetic, students need to use their imaginations to change "telling sentences" into "showing paragraph" (DePorter & Hernacki, 2005a: 190).

By using brainstorming technique, it is expected that students will be able to develop their ideas. Since the main problem in writing is in developing ideas, brainstorming is supposed to be an alternative technique in solving the problem. It can also be used to energize students to write enthusiastically (free of anxiety) and impressively (full of creativity).

2) Drafting

In the second phase students begin to trace and develop ideas by focusing in the contents more than punctuation, grammar or spelling. 'Show Not Tell' technique can be used to make the composition more 'fresh' and 'alive'.

3) Sharing

In the third phase students need to share their compositions one another. Every student should give space toward his/her own works because being so close with them makes him/her difficult to assess objectively. It is necessary to ask others not only giving objective assessments but also reflective feedbacks and positive suggestions on their works. All of the considerations will be useful for

every student to improve and develop their works next time. The important phase of sharing should not be neglected by writers because it would make their works become more consistent, comprehensive, and communicative.

4) Revising

In the fourth phase students revise their works based on the necessary feedbacks they take from others. Since every writer is the master of their own works one should be wise to appreciate and take advantage others' feedbacks that can improve their works. After revising the works, every students can share their writings to others again or continue to the next fifth phase.

5) Editing

The fifth phase is the time for 'left-brain' to play its role as editor. Students should correct all grammatical errors and mechanics mistakes they made in their works. Make sure all is correct and complete.

6) Rewriting

In the sixth phase students rewrite their revised works with additional new content in necessary editing changes.

7) Evaluating

In the seventh phase students check whether their works are complete to evaluate or not.

c. Advantages of Quantum Method

Von Groenendal (1991 in DePorter, Reardon, & Singer-Nourie 2005b: 4) in her dissertation states that Quantum method applied in SuperCamp is proved enable the students to improve their academical achievement, social participation,

and self confidence. Theoritically, since Quantum method applied technical procedure of California writing project which is in line with the process approach in teaching writing, there are also some advantages in it. Hyland (2003: 24 in Hasan & Akhand, 2010: 81) states the process approach makes processes of writing transparent and provides basis for teaching.

Based on various references and experiences, there are also some advantages acquired in Quantum method in creating a conducive atmosphere, cohesive, dynamic, interactive, participatory, and mutual respect. It gives teachers skills to engage students and gets them excited about learning. It provides a proven research-based approach to the design and delivery of curriculum and the teaching of learning and life skills. It synthesizes best teaching practices into an effective, comprehensive model, turning abstract theory into practical techniques that can be immediately applied in classroom skills.

d. Disadvantages of Quantum Method

Frankly, the researcher faces difficulties in finding authorized theories from various references related with the disadvantages of Quantum method. Quantum method is always updated, enriched, and supported well with the newly educational concepts so there are theoritically almost no weaknesses which can be found nowadays. There are only several opinions or statements from unauthorized researchers who state indirectly the disadvantages of Quantum method in teaching English or other foreign languages in the mixed ability classes especially toward the low level or novice students. Because of its ideal concepts, it is too difficult for teachers in implementing the method perfectly as said by previous researcher

that states humbly that Quantum method also has weakness since not all of the teachers in Indonesia are able to create a conducive atmosphere, cohesive, dynamic, interactive, participatory, and mutual respect ideally.

However, since Quantum method applied technical procedure of California writing project which is in line with the process approach in teaching EFL writing skill, there are also some disadvantages in it. Theoritically, Hyland (2003: 24) in Hasan & Akhand (2010: 81) stated some disadvantages of process approach in teaching EFL writing skill as follows: (1) assumes L1 and L2 writing similar; (2) overlooks L2 language difficulties; (3) insufficient attention to product; (4) assumes all writing uses the same processes. In addition, Hasan & Akhand (2010: 83) also states in their research the students faced problems in brainstorming and organizing their ideas cohesively and extracting the important points necessary for the topic. It makes the researchers took substantial time to correct them.

Meanwhile, Grossman (2009: 8) also states that process approach is not perfect because it requires a significant investment of class time to be successful. In addition, it was developed to meet the needs of the native classroom, where learners, who were already verbally fluent, needed to address the issue of the writing process and as a result, it neglects the linguistic element of written language.

2. Direct Instruction Method

Direct instruction was founded by Siegfried Engelmann in 1964 at University of Illinois Institute for Research on Exceptional Children. It is now well influencing curriculum, instruction, and research. Direct Instruction which is based on the learning theories of behaviourism then becomes the most common method used by traditional teachers in their classrooms. Usually it involves some explication of the skill or subject matter to be taught and may or may not include an opportunity for student participation or individual practice. Actually, it is an instructional model that focuses on the interaction between teachers and students (Magliaro, et al., 2005: 41).

a. Concept of Direct Instruction Method

Killen (1998: 2) in Setiawan, et al. (2010: 9 – 12) states that Direct Instruction refers to several expository teaching techniques (knowledge is transferred by the teacher to the students directly, such as: lecturing, demonstration, and questioning) which involve the whole of class. It is a teacher-centred model where the teacher presents the material in structured form, directs the students' activities, and focuses the academical achievement. Direct Instruction (DI) is an instructional method which is focused on systematic curriculum design and skillful implementation of a prescribed behavioral script. Direct instruction is a general term for the explicit teaching of a skill-set using lectures or demonstrations of the material, rather than exploratory models such as inquiry-based learning. On the premise that all students can learn and all teachers successfully teach if given effective training in specific techniques, teachers may

be evaluated based on measurable student learning. A frequent statement in discussions of the methodology is "If the student doesn't learn, the teacher hasn't taught."

Direct instruction is often summarized as “I do it, We do it, You do it,” that is, the teacher demonstrates the skill, the teacher and students do the skill together, and the students do the skill by themselves. Another phrase used to describe Direct Instruction is “model-lead-test.” It means the teacher shows and tells, the teacher leads the students in practicing, and the students are evaluated. Both phrases imply that the teacher is carefully guiding the learning of the students. This is precisely the intent of Direct Instruction. Direct instruction is explicit instruction (Price & Nelson, 2003: 84).

Setiawan, et al. (2010: 22) states that the main goal of Direct Instruction is to maximize student time on task and the student rate of success which in turn are associated with student achievement. Thus, the behaviours incorporated into Direct Instruction are designed to create a structured, academically oriented learning environment in which students are actively engaged during instruction and are experiencing a high rate of success (80 percent mastery or better) in the tasks they are given (Joyce & Weil, 1996: 344).

b. Procedure of Direct Instruction Method

Setiawan, et al (2010: 9 – 11) states that actually there are several syntax of Direct Instruction models proposed by several experts (Arends, 1997; Slavin, 2003; Bruce and Weil, 1996; etc). Direct Instruction used in this research consists

of five phases of activity: orientation, presentation, structured practice, guided practice, and independent practice.

1) Orientation

As preliminary activities before presenting and explaining new material, this phase is aimed to help students more prepared for the new lesson.

a) The teacher provides an anticipatory set by assessing the students' prior knowledge and providing an advance organizer to cognitively prepare the learners for the new lesson.
b) The teacher informs the learning objectives for the lesson, gives orientation lessons to the students, explains why the lesson is important and stresses the expected students' performance.
c) The teacher explains the the framework of the lesson to be used, the orientation of the materials to be mastered and the stages of activities to be conducted during the learning.

2) Presentation

In this phase, the teacher presents the subject matter either in the form of concepts and skills as follows:

a) The teacher reminds the students' prior knowledge and skills.
b) The teacher explains the subject matter clearly or demonstrates the new skill correctly.
c) The teacher checks for the students' understanding and correct misconceptions.

3) Structured Practice

In this stage, teachers give students the chance to practice the skill or the use of new information individually or in groups as follows:

a) The teacher provides opportunities for students to practice.
b) The teacher leads the students through practice examples, working in lockstep fashion through each step.
c) The teacher gives feedback (suggestion, correction, and/or reinforcement) to students' responses and provides additional teaching as needed.

4) Guided Practice

During this phase the teacher's primary task is still in the environment to assess student performance and monitor the students practicing on their own. The teacher asks frequent questions to see whether the students understand the work and gives corrective feedback or provides guidance if necessary.

5) Independent Practice

The last phase begins when the students have achieved an accuracy level of 75-90% in guided practice or if the student has mastered the stages of task execution guidance of 85-90% in a phase of training. In this stage, the teacher can provide independent practice or set conditions extended assignments with attention by giving assignments more complex in the real life situations for students to enhance self-understanding of the material they have learned. The students practice on their own without assistance and with delayed feedback. The teacher's role is to make sure that independent practice work is reviewed soon after completion.

c. Advantages of Direct Instruction Method

Setiawan, et al. (2010: 22) states that Direct Instruction method emphasizes conceptual learning process and motoric skill deductively. The learning environment seems structured and the role of the teacher is more dominant. If it is applied effectively, there will be some advantages as follows:

1. The teacher can inform students the instructional goal clearly and monitor them easily.
2. The teacher can control the timing of the lesson and the sequences of learning activities.
3. The teacher can stress the academical achievement and give feedback to the students' works accurately.

Direct instruction method is appropriate for teaching basic skills, facts, concepts, strategies, procedures, and knowledge which lends itself to being presented in small sequential steps. The teacher must ensure that the contents of instruction are logically organized and the students need to own the prerequisite knowledge needed. Specific objectives in its learning instructional goals make it easier for assessment.

Theoritically, since Direct Instruction method is in line with the product approach in teaching writing, there are also some advantages in it. Tangpermpoon (2008: 3) states that the product approach in teaching writing is widely accepted among writing teachers because learners can learn how to write in English composition systematically and learn how to use vocabulary and sentence

structures for each type of rhetorical pattern appropriately. It also helps instructors raise learners' L2 writing awareness, especially in grammatical structures.

d. Disadvantages of Direct Instruction Method

Based on various references, theoretically Direct Instruction method is critized in negative myths that it makes the students become passive in joining the learning process and makes them less responsible in their own progress since the teacher always explain and answer their problems. Since Direct Instruction method in teaching writing applied the technical procedures which is in line with the product approach, there are also some disadvantages of the product approach in it. Tangpermpoon (2008: 3) states that writing with this approach gives little attention to audience and the writing purpose since learners and instructors tend to overemphasize on the importance of grammar, syntax, and mechanics. Learners will lack motivation in learning and have high pressure in creating their writing tasks, as their instructors mostly focus on the accuracy of the language structures.

Meanwhile, Hasan & Akhand (2010: 83) found the disadvantages of the product approach in their research that the maximum number of students tried to recall their previous knowledge and some of them imitated model writing and some reproduced the original. The students failed to showcase their ability to write effectively the structure of the composition in their answer scripts.

C. Teaching Writing Using Quantum Method Compared to Direct Instruction Method

As mentioned above, teaching methods used in this research are Quantum and Direct Instruction methods. Based on the previous references, there are some differences between both methods viewed from several aspects of methodological concepts and the technical procedures of both methods which reflect the differences of treatments conducted in the main activites of teaching writing skills as summarized in the table 2.2.

Table 2.2 The Differences between Quantum and Direct Instruction method

No	Aspect	Quantum Method	Direct Instruction Method
1	Learning theory	Cognitivism	Behaviourism
2	Learning model	student-centred	teacher-centred
3	Learning strategy	Inductive	Deductive
4	Writing approach	Process oriented	Product oriented
	Phases of Activity	preparing, drafting, sharing, revising, editing, rewriting, and evaluating	orientation, presentation, structured practice, guided practice, and independent practice

In teaching writing skill, the cognitivist student-centered Quantum method applies the process-oriented approach in its complete technical procedures of California Writing project consisting of seven phases of activity: preparing, drafting, sharing, revising, editing, rewriting, and evaluating (DePorter & Hernacki, 2005a: 194 – 198). On the other hand, the behaviourist teacher-centered Direct Instruction method applies the product-oriented approach consisting of five

phases of activity: orientation, presentation, structured practice, guided practice, and independent practice (Setiawan, et al., 2010: 9 – 11).

The procedures of Quantum method in this research are summarized in the table 2.3.

Table 2.3 The Procedures of Quantum Method

No	**Phase**	**Students' Activities**	**Teacher's Activities**
1	Prewriting	Students build a strong base for the topic by using brainstorming techniques *(Fastwriting, clustering, mind-mapping, show not tell)*	Teacher guides students to explore ideas fluently and creatively .
2	Drafting	Students develop the content of ideas in drafts.	Teacher checks and guides students in making their drafts .
3	Sharing	Students share their drafts and give feedbacks one another	Teacher guides students to give necessary feedbacks to others' drafts
4	Revising	Students revise their works based on the others' feedbacks.	Teacher guides students in revising the works wisely.
5	Editing	Students correct all grammatical errors and mechanics mistakes in their own works.	Teacher checks and guides the students to make sure all is correct, and accurate.
6	Rewriting	Students rewrite their revised works in the final paper.	Teacher checks and guides the students in rewriting their works.
7	Evaluating	Students check whether their final works are complete or not.	Teacher checks the completeness of students' final works to evaluate.

Meanwhile, the procedures of Direct Instruction method in this research are summarized in the table 2.4.

Table 2.4 The Procedures of Direct Instruction Method

No	Phase	Teacher's Activities	Students' Activities
1	Orientation	Teacher explains the new text model which will be composed by the students.	Students respond their teacher's explanation based on their prior knowledge.
2	Presentation	Teacher demonstrates how to compose the text model .	Students pay attentions their teacher's demonstration.
3	Structured Practice	Teacher asks students to write their own text in good structure.	Students write their own text in a good structure.
4	Guided Practice	Teacher monitors and provides necessary guidance for student' compositions.	Students practice on their own with their teacher's necessary guidance.
5	Independent Practice	Teacher gives students independent practice of their composition to enhance self-understanding.	Students practice on their own without assistance and feedback.

The differences between Quantum and Direct Instruction methods in the methodological concepts and their technical procedures are predicted to cause the different results toward the students' preferences and their achievements. It will be discussed in the next rationale.

D. Creativity

Creativity can be viewed as an important intelligence to everyone in reaching life goals successfully because of its ability to identify problems, form hypotheses, and apply novel and appropriate solutions to unfamiliar and open-ended tasks. Sternberg (2003 in Anoiko 2011: 7) categorizes intelligence into three parts, which are central in his theory, the triarchic theory of intelligence:

1. Analytical intelligence, the ability to complete academic, problem-solving tasks, such as those used in traditional intelligence tests. These types of tasks present well-defined problems that have only a single correct answer.
2. Creative or synthetic intelligence, the ability to successfully deal with new and unusual situations by drawing on existing knowledge and skills. Individuals high in creative intelligence may give 'wrong' answers because they see things from a different perspective.
3. Practical intelligence, the ability to adapt to everyday life by drawing on existing knowledge and skills. Practical intelligence enables an individual to understand what needs to be done in a specific setting and then do it.

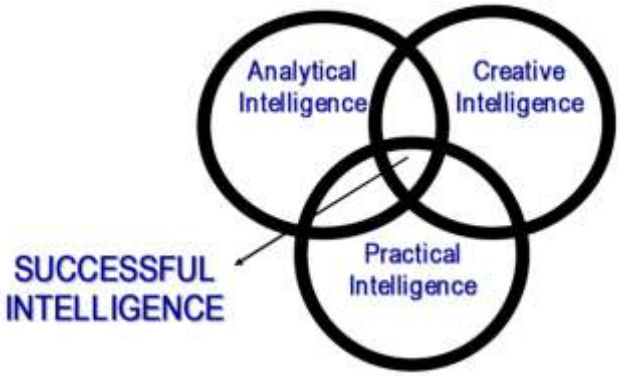


Figure 2.3 Sternberg's Successful Intelligence

The so-called successful intelligence is most effective when it balances the three aspects. Production of a socially valued creative product not only involves an ordered, self-critical analysis (analytic) but also depends on novel or divergent thought (creativity), and an ability to promote one's work and call attention to it in particular domain (practical intelligence). It is more important to know when and how to use the analytical, creative, and practical aspects of successful intelligence than just to have them. Successfully intelligent people not only have abilities – they reflect on when and how to use them. Sternberg (2001 in Taha, 2007: 16) also proposed that there is a dialectical relationship between creativity, intelligence, and wisdom in his WICS theory. Wisdom is considered to be the balance between creativity and intelligence relegating the novel ideas according to their appropriateness.

At first, formal education prefers developing convergent thinking to divergent thinking in evaluation. However, scholarly interest in creativity ranges widely nowadays. Because of its significant role in developing life skill, creativity (divergent/creative thinking) is recommended to apply in our educational programmes besides convergent thinking. Several efforts have been conducted in teaching creativity and/or teaching creatively. Nowadays professional teachers in Indonesia are also suggested to apply student-centered approach in their active, innovative, creative, effective, and pleasant instructional teaching learning process (PAIKEM – *Pembelajaran Aktif, Inovatif, Kreatif, dan Menyenangkan*). By using PAIKEM, it is expected that students can improve and develop their optimal competence and performance.

1. Definition of Creativity

Human creativity can be examined from various different angles and conceptual frameworks. Munandar (1977: 40) in her dissertation states that one of the most crucial problems in the study of creativity seems to be that there is not one of uniformly accepted definition creativity.

Towards a comprehensive understanding, the term of creativity can be approached from the well-known formulation in the creativity theory of the four P's which stands for Person, Process, Product, and Press (Rhodes, 1961: 305). Some experts' definitions of creativity commonly focus and emphasize on each P's and/or their combinations. Based on various references, brief explanations and simple quotations of each P's can be stated as follows:

a. Person

Person refers to the capability owned by creative people in pursuing a creative action to interact with environment.

Seltzer & Bentley (1999: 10) in Craft (2001: 13) states that creativity is the application of knowledge and skills in new ways to achieve a valued goal. To achieve this, learners must have four key qualities: (1) the ability to identify new problems, rather than depending on others to define them; (2) the ability to transfer knowledge gained in one context to another in order to solve a problem; (3) a belief in learning as an incremental process, in which repeated attempts will eventually lead to success; and (4) the capacity to focus attention in the pursuit of a goal, or set of goals.

Guilford (1959) in Anderson (1959: 142 – 161) states nine characteristic of creative people as follows: sensitivity to problems, fluency of thinking, flexibility of thinking, originality, redefinition, elaboration, tolerance of ambiguity, commitment, and risk taking.

b. Press

Press includes the relation a person and his/her environment. Based on the Press aspect, creativity can be realized with the internal factors (intrinsic) and external factors (extrinsic). The internal factors are factors that come from oneself. Meanwhile, the external factors come from social and psychological environment.

Amabile (1996 in Taha, 2010: 16) posits that creativity increases when an individual is internally motivated to do a creative activity based upon one's own interest in and enjoyment of that activity when compared to an individual who is motivated by external rewards.

Florida (1996 in Villaba, 2008: 23) states that places having good technology, talent, and tolerance can also attract creative people to generate innovation and stimulate economic growth.

c. Process

Process is dealing with the effort in creative activity manifested in specific stages sequentially.

Torrance (1996 in Craft, 2001: 11) states that creativity broadly as the process of sensing a problem, searching for possible solutions, drawing hypotheses, testing and evaluating, and communicating the results to others. He

added that the process includes original ideas, a different point of view, breaking out of the mould, recombining ideas or seeing new relationships among ideas.

Wallas (1926: 79 – 107) conceived the creative process as consisting of four identifiable stages: preparation, incubation, illumination, and incubation as follows:

1) Preparation – A problem is investigated consciously and systematically;
2) Incubation – A period of abstention from conscious thought about the problem;
3) Illumination – The creative idea appears in a sudden "flash" of inspiration, following a series of subconscious trains of association;
4) Verification – The validity of the new idea is tested, and the idea is reduced to exact form.

d. Product – Product includes the novel and appropriate result of the creativity process itself in the form of language or craft.

Sternberg and Lubart (1999: 3) in Villaba (2008: 10) states that "Creativity is the ability to produce work that is both novel (i.e. original, unexpected) and appropriate (i.e. useful concerning tasks constrains)".

Starko (2011: 5 – 6) also states that the most definitions have two major criteria for judging creativity: novelty and appropriateness. The novelty and originality may be the characteristics most immediately associated with creativity. To be creative, an idea or product must be new. An idea or product is appropriate if it meets some goal or criterion. Creativity is purposeful and involves effort to

make something work, to make something better, more meaningful, or more beautiful.

Thus, it can be inferred that the term "creativity" can be defined as the capability owned by creative people (person) which can be realized by the intrinsic or extrinsic factors (press) and manifested in specific stages (process) to present novel and appropriate result (product). If creative persons have been pressed by their personal motivation and/or supported by environmental conditions to innovate creatively, the creative process in making creative product can be happened.

2. Components of Creativity

Starko (2010: 55 – 56) states Guilford's (1959, 1986, 1988) Structure of the Intellect (SOI) model is a complex model of intelligence including, in its most recent form, 180 components. The components are formed through combinations of types of content, operations, and product.

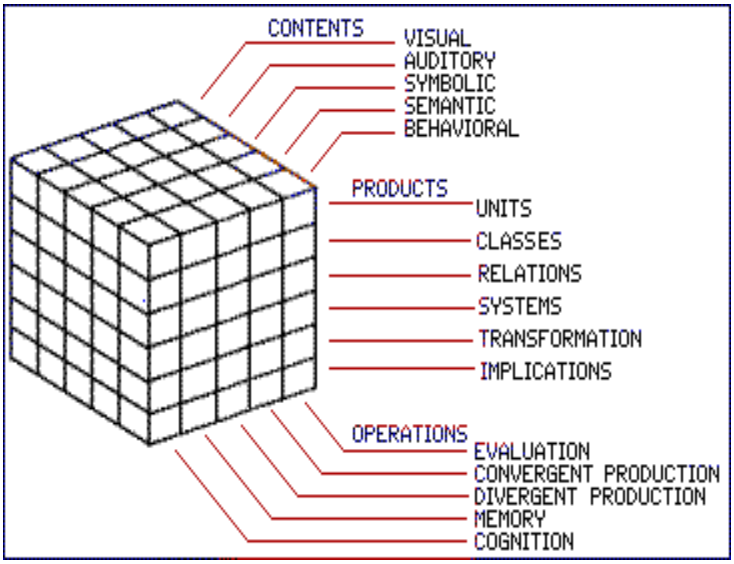


Figure 2.4 Guilford's Structure of Intelect

Unlike previous models of intelligence, the Guilford's SOI model includes divergent thinking, or thinking of many possible responses to a given question, as one of the basic processes of intelligence. Guilford identified components of divergent production that have formed the backbone of much research and assessment of creativity. They include fluency, flexibility, originality, elaboration, and redefinition as follows:

a. Divergent thinking operations

1) *Fluency.* Fluency is an ability to make number of interpretable, meaningful, and relevant ideas/answers generated in response to the same given information/ stimulus in a limited time and quantity of meaningful solutions.
2) *Flexibility.* Flexibility is the ability to adapt, change and reform different configurations of classes, relations, and systems.
3) *Originality.* Originality is the ability to generate a variety of transformations or statistical rarity of the responses in the population to which the individual belongs.

b. Evaluative thinking operations

4) *Elaboration.* Elaboration is the ability/sensitivity of problems/ situations in the evaluative mode to bring about improvement through the amount of detail in the responses.

c. Convergent thinking operations

5) *Redefinition.* Redefinition is creative effort of the convergent thinking mode in transforming of an idea / something known into something not previously

known. The product may become very general or simple or in contrary very fantastic or enriched into details.

Starko (2010: 290) also states that many standardized creativity tests are based on the processes of divergent thinking identified by Guilford (1967). The most widely researched and extensively used of these are the Torrance Tests of Creative Thinking (TTCT 1974) which were scored on four scales as follows:

a. *Fluency.* The total number of interpretable, meaningful, and relevant ideas generated in response to the stimulus.
b. *Flexibility*. The number of different categories of relevant responses.
c. *Originality*. The statistical rarity of the responses.
d. *Elaboration.* The amount of detail in the responses.

The four scales of creative thinking above are also used by Munandar's TKV (*Tes Kreativitas Verbal* – Verbal Creativity Test created by Munandar). The test has been used especially in Indonesia since 1977.

Based on the references above, it can be concluded that there are several components of creativity, as follows:

a. Fluency. Fluency is an ability to make number of interpretable, meaningful, and relevant ideas/answers generated in response to the same given information/ stimulus in a limited time and quantity of meaningful solutions.
b. Flexibility. Flexibility is the ability to generate number of different categories of relevant responses.

c. Originality. Originality is the ability to generate a variety of transformations or statistical rarity of the responses in the population to which the individual belongs.
d. Elaboration. Elaboration is the ability/sensitivity of problems/ situations in the evaluative mode to bring about improvement through the amount of detail in the responses.
e. Redefinition. Redefinition is creative effort of the convergent thinking mode in transforming of an idea/something known into something not previously known.

3. Testing Creativity

Actually there are five approaches to measure creativity, namely: (1) an objective analysis approach to the creative product; (2) the subjective considerations; (3) personality inventory; (4) biographical inventory; and (5) tests of creativity. Although all might be considered to be valid and reliable enough to measure creativity aspect of respondents, every approach mentioned above has its own strength and weakness. In this research we use the last approach (i.e. test of creativity) to measure the students' creativity aspect based on some considerations and necessities of the research.

Guilford (1959) in Anderson (1959: 142 – 161) reports on a study in which subjects took tests measuring various aptitudes or skills, and were also rated for creativity. If the score for an aptitude or skill correlates well with creativity ratings, then that aptitude or skill is held to be an important characteristic of creative people as summarized in the table 2.5.

Table 2.5 Guilford's Characteristics of Creative People

No	Category		Example(s)
1	Ability to see or sensitivity to problems		Can state difficulties or deficiencies in common products or in social institutions, make judgement that desired goals in a described situation have not been achieved.
2	Fluency of thinking		Able to think well and effortlessly
	a	Word fluency	Can easily state words containing a given letter or combination of letters
	b	Associational fluency	Can easily state synonyms for a given word
	c	Expressional fluency	Can easily write well-formed sentences with a specified content.
	d	Ideational fluency	Can easily produce ideas to fulfill certain requirements, for example to name objects that hare hard, white and edible, or to write an appropriate title for a given story.
3	Flexibility of thinking		Can easily abandon old ways of thinking and adopt new ones.
	a	Spontaneous flexibility	Can produce a great variety of ideas. For example in suggesting uses for a brick, subject can jump among categories, from building material to weight to missile to source of red powder.
	b	Adaptive flexibility	Can generalize requirements of a problem to find a solution. For example, in a problem of forming squares using a minimum number of lines, can abandon the usual idea that all squares have to be the same size.
4	Originality		Comes up with ideas that are statistically unusual
	a	Remote associations	Forms associations between elements that are remote from each other in time, or remote from each other logically
	b	Responses are judged to be clever	
5	Redefinition - gives up old interpretations of familiar objects and uses them in new ways		Which of the following objects could best be used to make a needle: pencil, radish, shoe, fish, carnation? (fish - use bone)
6	elaboration - can fill in details given a general scheme		Given a general task, fill in the detailed steps. Given two simple lines, draw a more complex object/
7	Tolerance of ambiguity		Willingness to accept some uncertainty in conclusions, not using rigid categories
8	Interest in convergent thinking		Thinking towards one right answer, as in solving a mathematical problem stated in a textbook
9	Interest in divergent thinking		Open-ended thinking, where there is not a single right answer

Runco (2007: 9) states that divergent thinking (creativity) is employed when an individual is faced with an open-ended task. Based on the Guilford's Structure of Intelect theory there is a difference between creativity and intelligence. Intelligence is more concerned in the convergent thinking but creativity is related with the divergent thinking. Convergent thinking is focusing the achievement in the most appropriate answer toward a problem, question or

issue. Meanwhile, divergent thinking is an open form of thinking, which explores the various possible answers toward a problem, question or issue. Thus, unlike convergent thinking in IQ test, where the individual gives the one correct or conventional response, divergent thinking in CQ test leads the individual to numerous and varied responses. Creativity Quotient (CQ) can be measured by tests of creativity as follows:

a. Guilford's Structure of the Intellect (SOI) tests.

Guilford's group, which pioneered the modern psychometric study of creativity, constructed several tests to measure creativity in 1967 as follows: (1) Plot Titles, where participants are given the plot of a story and asked to write original titles.; (2) Quick Responses is a word-association test scored for uncommonness.; (3) Figure Concepts, where participants were given simple drawings of objects and individuals then were asked to find qualities or features that are common by two or more drawings; these were scored for uncommonness.; (4) Unusual Uses is finding unusual uses for common everyday objects such as bricks.; (5) Remote Associations, where participants are asked to find a word between two given words.; (6) Remote Consequences, where participants are asked to generate a list of consequences of unexpected events.

b. Torrance Test of Creative Thinking (TTCT)

Torrance Test of Creative Thinking (TTCT 1974) is based on Guilford's Structure of the Intellect (SOI) divergent production tests. The test is used to measure respondent's creative thinking. There are two versions of the TTCT: The TTCT - Verbal and the TTCT - Figural as follows: (1) The TTCT – Verbal has

two parallel forms, A and B, and consists of five activities: ask-and-guess, product improvement, unusual uses, unusual questions, and just suppose.; (2) The TTCT – Figural has two parallel forms, A and B, and consists of three activities: picture construction, picture completion, and repeated figures of lines or circles.

c. Verbal Creativity Test (Tes Kreativitas Verbal)

TKV (*Tes Kreativitas Verbal* - Verbal Creativity Test created by Munandar, 1977) is also based on Guilford's Structure of the Intellect (SOI) divergent production tests. Munandar (1977: 122) states that there are six tests in TKV as follows:

1) Initial Words/Word Beginning (*Tes Permulaan Kata*)
2) Forming Words/Anagram (*Tes Membentuk Kata*)
3) Three-Words-Sentence (*Tes Kalimat-Tiga-Kata*)
4) Characteristics Similarity/Things Categories (*Tes Kesamaan Sifat*)
5) Unusual Usage/Alternate Use (*Tes Penggunaan tak lazim*)
6) Cause – Effect/Consequences (*Tes Sebab – Akibat*)

Beside the tests above, creativity actually can be measured by other tests, such as: Test for Creative Thinking–Drawing Production (Jellen and Urban, 1985) to measure respondent's creative thinking. It can also be measured indirectly by non-test based on other approaches, such as by using questionnaires and observations.

In the recent study, the standardized Munandar's TKV (*Tes Kreativitas Verbal* – Verbal Creativity Test) is used by the researcher. The test is the most popular creativity test implemented in Indonesia since 1977 to know the respondents' CQ (Creativity Quotient).

4. Construct and Indicators of Creativity

Based on the theoretical descriptions above, researcher summarizes the construct and indicators of creativity used in this research as follows:

a. Construct of Creativity

1) The definition of Creativity

Creativity is the capability owned by creative people (person) which can be realized by intrinsic or extrinsic factors (press) and manifested in specific stages (process) to present novel and appropriate result (product).

2) The components of Creativity

There are several components of creativity, namely divergent thinking operations (flexibility, fluency, and originality), evaluative thinking operations (elaboration), and convergent thinking operations (redefinition).

However, since the research uses Munandar's TKV (Tes Kreativitas Verbal – Verbal Creativity Test created by Munandar in 1977), the components are limited on 4 (four) indicators: fluency, flexibility, originality, and elaboration. Redefinition as creative effort of the convergent thinking mode in transforming of an idea/something known into something not previously known is not included as indicators in Munandar's TKV which is used as test instrument to determine the psychological aspect of students' creativity level (CQ) in this research.

3) Testing Creativity

In this research Munandar's TKV (Tes Kreativitas Verbal – Verbal Creativity Test) is used to know the respondents' CQ (Creativity Quotient). The

tests are especially used to determine CQ based on four aspects: flexibility, fluency, originality, and elaboration. There are six tests in TKV as follows :

a) Initial Words/Word Beginning (Tes Permulaan Kata)
b) Forming Words/Anagram (Tes Membentuk Kata)
c) Three-Words-Sentence (Tes Kalimat-Tiga-Kata)
d) Characteristics Similarity/Things Categories (Tes Kesamaan Sifat)
e) Unusual Usage/Alternate Use (Tes Penggunaan tak lazim)
f) Cause – Effect/Consequences (Tes Sebab – Akibat)

b. The indicators of Creativity

Since the research uses Munandar's TKV as the test instruments to determine the respondents CQ (Creativity Quotient), the indicators of creativity can be derived from the definitions of each components of creativity as follows:

1) Flexibility

   The respondent is able to adapt, change and reform different configurations of classes, relations, and systems. The CQ score is based on the total number of interpretable, meaningful, and relevant ideas generated in response to the stimulus.

2) Fluency

   The respondent is able to make number of interpretable, meaningful, and relevant ideas/answers generated in response to the same given information/ stimulus in a limited time and quantity of meaningful solutions. The CQ score is based on the number of different categories of relevant responses.

3) Originality

The respondent is able to generate a variety of transformations or statistical rarity of the responses in the population to which the individual belongs. The CQ score is based on the statistical rarity of the responses.

4) Elaboration

The respondent is able to bring about improvement through the amount of detail in the responses. The CQ score is based on the amount of detail in the responses.

The scoring rubric of students' CQ (Creativity Quotient) is based on the four components mentioned above. The students' works of CQ tests are scored by using the scoring rubric. Each aspect ranges from 1 to 5. The students' scores of CQ test are then converted into the regular scores (100 or less). By comparing the scores with the mean or median scores of the group, every students in the experimental and control classes in the recent research can be classified as the students having high CQ and the students having low CQ.

E. Relevant Research

The researcher appreciates all the works, especially ones related with variables in this research, as follows:

1. Writing skill as one of the basic language skills is used as the variable factor of the dissertation written by Hammadouche (2010) entitled: "Developing the Writing Skill through Increasing Learners' Awareness of The Writing Process : the Case of Second Year Students - University of Constantine". In his

research writing skill can be developed by increasing the learners' awareness of the writing process approach.

2. Quantum method used as the solution of the problems faced in the teaching learning process in the Classroom Action Research written by Diah Ayu Kusumaningtyas (2010) entitled " Using Quantum Teaching Approach to Improve Young Learners' Speaking Proficiency (A Classroom Action Research in the Fifth Grade Students of Nurul Ilmi Gemolong Sragen in the 2008 Academic Year)". In his research Quantum teaching approach can improve the learners' speaking proficiency.
3. Direct Instruction used as the control class treatment in the thesis written by Erlik Widiyani Styati (2010) entitled: "The Effectiveness of Clustering Technique to Teach Writing Skill Viewed from Students' Linguistic Intelligence (An Experimental Research on Descriptive Writing for the Second Semester of English Department of IKIP PGRI Madiun in the Academic Year of 2009/2010)." In her report Direct Instruction method are still effective to be used for the students having low linguistic Intelligence.
4. Creativity as one of psychological aspects in the Report written by Ernesto Villalba (2008) entitled "On Creativity (towards an Understanding of Creativity and its Measurements)." The book report a lot of references about creativity in general.

Besides the references written in English, the researcher also uses some references in Indonesian, as follows:

5. Classroom action research using Quantum method written by Sabar Rutoto (2007) entitled: "Quantum Teaching (sebuah Model Pembelajaran Quantum Learning untuk Meningkatkan Prestasi Belajar Siswa Kelas V SD 3 Demaan Kota kudus tahun 2006 – 2007)." In his research Quantum teaching can improve the students' learning achievements .
6. References on creativity written by Munandar (2002) entitled "Kreativitas dan Keberbakatan" (In Munandar, S.C.U. 2002. Kreativitas dan Keberbakatan Strategi Mewujudkan Potensi Kreatif dan Bakat. Jakarta: Gramedia Pustaka Utama). Creativity and Giftedness can be understood well in her work.

In addition, since the the research employed an experimental method of 2 by 2 factorial design, the researcher also learn the following references to compose such academic works.

7. Graduate thesis written in English by Palgunawan (2010) entitled: "The Effectiveness of Five 'E' Method to Teach Reading Science Texts Viewed from Intelligence Quotient (IQ) – An Experimental Research in the Seventh Year Students of SMP Negeri 1 Wonogiri in the 2009/2010 Academic Year." In his research Five 'E' Method is better than conventional method to teach reading science texts viewed from Intelligence Quotient (IQ).
8. Scholar paper written in Indonesian by Wiwik Widianingsih (2010) entitled: "Eksperimentasi Pembelajaran Kooperatif Tipe Numbered Head Together (NHT) dan Metode Penemuan pada Sub Pokok Bahasan Kubus dan Balik Ditinjau dari Motivasi Belajar Siswa Kelas VIII SMP Negeri 3 Purwantoro Tahun Pelajaran 2008/2009." In her research new method is better than

conventional method to teach mathematics viewed from students learning motivation.

All the references, including the above works, are really useful for the researcher in exploring ideas related to the academical theories besides gaining relevant experiences related to the empirical facts. The references above commonly conclude the following statements on their contents, summaries, and abstracts.

1. Teaching methods (including Quantum and Direct Instruction methods) and psychological aspect (including creativity level) are stated as significant aspects contributing the students' achievements (including writing skill).
2. New method (including Quantum method) usually yields better achievement than the old ones, especially for the high level students (IQ, motivation, creativity, etc.). Thus, the new method is then recommended by the educational experts, journal writers, and field researchers to apply in the classroom. Meanwhile, old method (including Direct Instruction method) is commonly used by traditional teachers in teaching mixed ability classes. The old method is still appropriate for teaching the low level students (IQ, motivation, creativity, etc.).
3. Creativity and other psychological aspects are also predicted having significant contributions in the students' achievements. They interact with teaching methods to get significant results in the field research.

F. Rationale

Based on all of the theories and constructs mentioned above, the researcher proposes the basic assumption to develop hypotheses as follows:

1. How and why Quantum method is more effective than Direct Instruction method to teach writing to the eighth grade students of SMPN 1 Bulukerto in the 2011/2012 academic year

Teaching method is one of the external factors in determining the success of learning. The selection of the appropriate teaching method implemented in the teaching learning process determines the better result on students' writing competence in the classroom. This research uses two methods. Direct Instruction is a conventional method that represents product writing approach. Meanwhile, Quantum method as new method is conducted in the line with process writing approach.

Direct Instruction is probably the most common method done by most English teachers. This method actually contributes significantly in improving students' writing skill, especially in finishing end-product efficiently. It emphasizes not only on reinforcing grammatical features accurately but also on applying generic structures of the text correctly. It is the most popular method to determine the instructional goal within the determined time. The teaching and learning process focuses on the teacher's explanations and guidances. The teacher is responsible of transmitting all, whereas the students absorb the teacher's information and do exactly based on the instructions given to them. Although the interaction among teacher and students actually is not always in the form of one-

way communication but the students are not empowered to be creative and innovative both in developing their own ideas and determining their own composition style. As the result, the final product of students' writing compositions seems too rigid, rough, and 'formal'. It does not reflect one's authentic composition in expressing their ideas fluently and uniquely. The anxiety, procedures, obligation, and deadline in finishing the assignment of final accurate products make students like to compose their text simply and safely in order to pass their minimal target scores at once better than to express their ideas freely, fluently, authentically, and appropriately first then followed by revising and editing into better compositions.

On the other hand, Quantum method provides more chances for the students to be active learners and creative writers. In Quantum class students' creativity is supported and directed to grow up more independently and authentically. It can increase the whole intelligences of students, both left and right brains. Moreover, there are also a lot of innovative brainstorming techniques to utilize their whole brains in composing the writing tasks. Every students are also supported by other students' helps in the sharing stages to develop their ideas. Thus, the last products created by the students who were taught by using Quantum method are predicted not only more comprehensive but also more communicative than the composition result in the previous Direct Instruction method.

Based on the descriptions above, it can be assumed that the Quantum method will yield a better writing skill than Direct Instruction method.

2. How and why the eighth grade students of SMPN 1 Bulukerto in the 2011/2012 academic year having high creativity have better writing skill than those having low creativity

Creativity is one of the internal factors in determining the success of learning. Creativity is considered as the main factor to cause the students' performance. The students' creativity will affect the students' critical, creative, and innovative thinking.

The students having high creativity tend to be more creative, critical, and innovative than those having low creativity. The students with high creativity tend to be more enthusiastic and creative in their teaching learning process than those having low creativity. Because of their positive attitudes, interests, and capabilities toward their lessons, they commonly try to focus and learn better in the instructional materials and accomplish their tasks assignments more completely and creatively.

On the other hand, the students having low creativity tend to be lazy, passive, and anxious in their teaching learning process than the high ones. Because of their negative attitudes, interests, and capabilities toward their lessons, they commonly face several problems to understand the instructional materials and stuck on some difficulties to accomplish their tasks assignments completely.

Based on the descriptions above, it is predicted that the students having high creativity tend to gain writing achievement better than those having low creativity.

3. How and why there is an interaction between methods and students' creativity to teach writing to the eighth grade students of SMPN 1 Bulukerto in the 2011/2012 academic year

Both the types of teaching methods and the level of students' creativity are predicted to interact each other and give significant effect toward both the process and the final product of students' writing skills. There are different treatments between Quantum method and Direct Instruction method toward both the different types of students having high and low creativity. Quantum is an effective cognitivist student-centered method which empowers the students' creativity in composing their task inductively in its process-oriented approach. Direct Instruction is an efficient behaviourist teacher-centered method which directs the students' mastery in finishing their task deductively in its product-oriented approach.

By using Quantum method, the students are actively involved in the teaching and learning process. During every phases in Quantum method, the students are provided with wide spaces to develop their potentials. Moreover, the students are also expected to be active, and creative. By implementing the Quantum method, the teacher gives opportunities to the students to generate their ideas and thoughts. Learning resources come from various resources. Some brainstorming techniques can stimulate the creative learners to generate and develop their ideas. The students having high CQ will be able to optimize their creativity when Quantum method is implemented in their classroom activity. They will be comfortable because they have high capacities to explore ideas creatively.

As a result, the students having high CQ enable discover, explore, and express their own ideas creatively. On the other hand, the students having low CQ will get difficulty to explore ideas in the Quantum method because of their lackness of creativity to generate ideas. Thus, it is assumed that Quantum method is suitable for the students having high CQ but it is not suitable to apply for the the students having low CQ.

On the other hand, Direct Instruction method is also able contribute significantly in improving students' writing skill, especially in finishing end-product efficiently. Nevertheless, this method is different from Quantum method since the teaching and learning process focuses on the teacher' explanations and guidances. The teacher is responsible of transmitting all, whereas the students absorb the teacher's information and do exactly based on the instructions given to them. Although the interaction among teacher and students actually is not always in the form of one-way communication but the students are not empowered to be creative and innovative both in developing their own ideas and determining their own composition style. It makes the students having high CQ disapointed and frustated because they must not express and determine their own ideas and style creatively. The students having high CQ must adapt the restrictions in their independences, competences, and performances in writing their compositions both by their own ideas and style. They must adapt and adopt the obligatory compositions which was modelled and/or wanted by their teacher. It not only makes them uncomfortable to overcome their mental problems but also causes their compositions unsatisfied. Meanwhile, the students having low CQ will be

suitable when Direct Instruction method is applied in their classroom activity because they prefer being controlled or guided to write their compositions. The students having low CQ usually tend to be lazy, passive, and anxious in doing the creative tasks including writing composition. If they have to write composition, they will like to do it efficiently based on their teacher's explanations, guided instructions, or text models better than to do it creatively through several processes in generating ideas and expressing them in their own composition. Thus, it is assumed that Direct Instruction method is suitable for the students having low CQ.

Based on the descriptions above, it is predicted that there is an interaction between teaching methods and students' creativity. Quantum method is assumed to be appropriate for the students having high CQ but it is not suitable to apply toward the students having low CQ. Meanwhile, Direct Instruction method is assumed to be appropriate for the students having low CQ. In other words, it can be concluded that the students having high CQ will be better taught in Quantum method but students having low CQ students will better taught in Direct Instruction method.

G. Hypotheses

Based on the reviews of the related literature and rationale, the hypothesis can be formulated as follows:

1. Quantum method is more effective than Direct Instruction method to teach writing to the eighth grade students of SMPN 1 Bulukerto in the 2011/2012 academic year.

2. The eighth grade students of SMPN 1 Bulukerto in the 2011/2012 academic year having high creativity have better writing skill than those having low creativity.
3. There is an interaction between teaching methods and students' creativity in teaching writing to the eighth grade students of SMPN 1 Bulukerto in the 2011/2012 academic year.

CHAPTER III

RESEARCH METHODOLOGY

A. Place and Time of the Research

The research was carried out at SMP N 1 Bulukerto. It is located on Bulukerto district, Wonogiri regency, Central Java province. There are fifteen classes in this school. They are five classes in seventh grade, five classes in eighth grade, and five classes in ninth grade. This research was held in the 2011/2012 academic year from July 2011 to March. There were several steps conducted to fulfil the requirements of the thesis composition of the research as follows:

1. Proposal Thesis Composition
   a. July 2011 – August 2011 : Title Consultation
   b. August 2011 – September 2011 : Writing Proposal Draft
   c. September 2011 – October 2011 : Proposal Draft Consultation
   d. October 2011 – November 2011 : Instrument Consultation
   e. November 2011 – December 2011 : Proposal Draft Seminar
2. Field Treatment / Implementation
   a. January 2012 – February 2012 : Research Permission and Treatment
   b. February 2012 – March 2012 : Data collection and Analysis Report
3. Thesis Examination & Pronunciation
   a. March 2012 – April 2012 : Writing Thesis and Examination
   b. April 2012 – May 2012 : Pronuncing and Submiting Thesis
   c. May 2012 – June 2012 : Collecting Thesis

The researcher also pays attention the context of the research and the profile of the writing class

B. Research Method

Research can be defined as a methodical investigation into a subject in order to discover facts, to establish or revise a theory, or to develop a plan of action based on the facts discovered. On the other word, research is the application of scientific approach to the study of a problem.

This research is aimed at finding out whether there is a cause-effect relationship between teaching methods and writing achievement viewed from creativity or not. It is conducted by comparing the students' writing tests achievement between the experimental and control groups. The experimental group is taught by using Quantum method and the control group is taught by using conventional Direct Instruction one. Each group is also classified into two different levels of creativity; the high and the low.

Based on the description above, the research can be categorized as an experimental research since it attempts to investigate the influence of one or more variables to another variable by giving treatment to experimental group and maintaining control over all factors that may affect the result of an experiment.

C. Research Design

There were two independent variables (X_1 and X_2) and one dependent variable (Y) in this research. Independent variable (X) was a variable that was presumed to give influence or contribution to dependent variable (Y). The independent variables consist of the manipulative treatments (Quantum method

and Direct Instruction method) as experimental variables (X_1) and the psychological aspect of the students' creativity (high and low) stated as attribute variable (X_2). Meanwhile, the students' writing skill as the effect or results of the experiment becomes the dependent variables (Y).

The experimental research design used in the research is a 2 x 2 factorial design by technique of multifactor analysis of variance (ANOVA) as follows:

Table 3 Research Design

Attribute Variable (X_2) Psychological Aspect	Experimental Variable (X_1) Treatment= Teaching method (A)	
Creativity (B)	Quantum method (A_1)	Direct Instruction method (A_2)
High CQ (B_1)	Cell 1 (A_1B_1)	Cell 3 (A_2B_1)
Low CQ (B_2)	Cell 2 (A_1B_2)	Cell 4 (A_2B_1)

Note:

1. A_1 = The writing scores of the students who were taught by using Quantum method
2. A_2 = The writing scores of the students who were taught by using Direct Instruction method
3. B_1 = The writing scores of the students having high CQ
4. B_2 = The writing scores of the students having low CQ
5. A_1B_1 = The writing scores of the students having high CQ who were taught by using Quantum method
6. A_1B_2 = The writing scores of the students having low CQ who were taught by using Quantum method
7. A_2B_1 = The writing scores of the students having high CQ who were taught by using Direct Instruction method
8. A_2B_2 = The writing scores of the students having low CQ who were taught by using Direct Instruction method

The research design consists of column A for teaching methods and row B for psychological aspect. The table shows that column A_1 is Quantum method conducted in experimental class and column A_2 is Direct Instruction method conducted in control class. Row B consists of row B_1 for the students having high creativity and row B_2 for the students having low creativity. If the students' Creativity Quotient (CQ) scores are higher than the median or mean score of the group, they are classified as the students having high CQ, whereas if the students' Creativity Quotient (CQ) scores are lower than the median score, they are classified as the students having low CQ.

D. Subject of the Research

It is important for the researcher to determine the population before the representative sample is chosen and the treatments are given.

1. Population

Tuckman (1999: 227) defines population in educational research as the group about which the researcher is interested in gaining information and drawing conclusion. Meanwhile, Sugiyono (2010: 117) states that the population is a generalized area which consists of objects or subjects having specific characteristics and qualifications.

Based on the title and background of the research, the population was the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year. They were the students in five classes (VIIIA, VIII B, VIII C, VIII D and VIII E). Each class consisted of 20 to 24 students. The total number of the population was 115 students.

2. Sample

Tuckman (1999: 258) defines sample as a representative group from the population to serve as respondents. The sample should respresent the population since the research result will be generalized to the population. Meanwhile, Sugiyono (2010: 118) states that sample is a representative part of quantity and characteristics owned by the population.

In the research some respondents were chosen as the samples in the experimental and control groups from 115 students in five classes (VIIIA, VIII B, VIII C, VIII D and VIII E) of SMP N 1 Bulukerto in the 2011/2012 academic year. Two classes were then taken as the samples of the research to be the experimental group taught by using Quantum method and the control group taught by using Direct Instruction method.

3. Sampling

Tuckman (1999: 260) states that an early step in sampling is to define the population to draw the sample. By referring to the variables of interest and by taking into account practical considerations, the researcher chooses characteristics to be included in and excluded from the target population. Meanwhile, Sugiyono (2010: 118) states that sampling technique is the way to take sample out of a population. By studying the representative sample, it would be possible to generalize the properties or characteristic to the population elements.

Cluster random sampling is used in this experimental research. Cluster random sampling is the selection of groups or clusters, of subjects rather than individuals. There were five classes of eighth grade in SMP N 1 Bulukerto to

choose as one experimental group, one control group, and one try-out group. By using cluster random sampling, two classes were chosen as the samples of experimental and control group in the research and other classes as the try-out groups. So, the respondents of every groups consisted of all of the students in the same regular class. It made this quasi experimental research more practical and effective to conduct.

Lottery was applied to choose the samples of experimental and control group in the research and the result was 24 students of class VIII B as the experimental group taught by using Quantum method, 24 students of class VIII C as the control group taught by using Direct Instruction method, and 24 students of class VIII A as the try-out group.

E. Technique of Collecting Data

There are several methods or techniques which can be used in collecting data in this research. One of them is test method or technique. Arikunto (2006: 150) states that a test is a set of questions, exercises, or other instruments which are used to measure skill, knowledge, intelligence, and aptitude of an individual or groups. Researcher assumes that test method is the effective and objective research instrument to determine one's proficiency in a certain subject. Thus, the main ways to get the data in this research are the test methods in the attribute variable (X_2) of the students' creativity and the dependent variable (Y) of the students' writing skill as follows:

1. Creativity Quotient Test

The researcher used the standardized Munandar's TKV (*Tes Kreativitas Verbal*, Verbal Creativity Test) as the most popular creativity test implemented in Indonesia since 1977 to know the respondents' CQ (Creativity Quotient). The tests are used to determine CQ based on four aspects: flexibility, fluency, originality, and elaboration. The scoring rubric of the students' CQ work is based on the four indicators above. Each aspect ranges from 1 to 5. The scores of CQ test are then converted into the regular scores (100 or less).

By comparing the scores with the mean or median score of the group, the students who were taught by using Quantum method (A_1) and the students who were taught by using Direct Instruction method (A_2) are classified as the students having high CQ (B_1) or the students having low CQ (B_1).

2. Writing Composition Test

Since writing is a composing process, the composition test in essay form becomes the final test for the students in the experimental and control classes. The table of specifications in testing writing skill are suitable with the indicators used in the lesson plans in teaching writing skill. In this research five subskills are used as the indicators in teaching and testing writing skills, namely: content, organization, grammar, vocabulary, and mechanics. The scoring rubric ranges analytically from 1 to 5 for the students' works based on every indicators with the analytical scoring of essay profile suggested by Jacobs, et al. (1981 in Brown, 2004: 246) is used in the research as follows: content (30), organization (20),

vocabulary (20), grammar/ syntax (25), and mechanics (5). Thus, 100 is the total of maximum score.

By comparing the mean scores of each groups, the researcher can identify the influences of the students' creativity and the teaching methods which are applied to teach writing in the experimental class and in the control class.

The researcher needs to be sure that all of the test items above are readable before they are implemented to the students in the experimental and control groups. So, the test instruments should be checked by try-out groups. Dubay (2007: 6) defines readability as the ease of reading created by the choice of content, style, design, and organization that fit the prior knowledge, reading skill, interest, and motivation of the audience. Thus, readability can be defined as the ease in which text can be read and understood. The readability of the test items in this research was at first checked and determined by giving questionnaires of readability to the respondents of try-out groups whether the test items were readable or not. Unreadable test items should be revised or unused. Then, the readable test items of the initial standardized CQ test and the final writing teacher-made test can be done by the students in the experimental and control class.

The tests (especially in essay forms, such as: the initial CQ test and the final writing tests in the recent research) can be scored by two different scorers (inter rater) or one scorer scores the same writing test in different occasion (intra rater) to decrease subjectivity. Thus, the researcher chose inter rater in scoring the students' works. In the recent research all of the students' works were scored by two different scorers. Both of the scorers are the researcher's colleagues in the

same school who taught English in the first and third year. The researcher compared the scores and used the average of their scores as the final score. At last, all of the data were collected to analyze.

F. Technique of Analyzing Data

Data analysis technique is a way to analyze the obtained data in this research by using several statistics formula and tables. Statistics is used as the study of the collection, organization, analysis, and interpretation of data. These data can be subjected to statistical analysis, serving two related purposes: description and inference.

Descriptive statistics summarize the population data by describing what was observed in the sample numerically or graphically. Meanwhile, inferential statistics uses patterns in the sample data to draw inferences about the population represented, accounting for randomness.

1. Descriptive Statistics

Descriptive statistics in this research consists of several descriptions of the score data distribution related with the result of tests above, such as: the range, the number of classes, the class width (interval), tally the data, histogram/polygon, the values of mean, mode, median, and standard deviation (as individual data or in frequency distribution) in the 8 (eight) groups of data distribution. The following procedures and formula of descriptive statistics are used in the research:

a. Determining data in the working table of frequency distribution

There are some steps in the construction of a frequency distribution as follows:

1) Find the range of the data

   Range = the highest score – the lowest score

2) Decide the approximate number of classes by Sturgess' formula

   Number of classes = 1 + 3.3 (log n) ; n is total of respondents

3) Determine the approximate class interval size

   Class width = total of respondents : number of classes

4) Decide the starting point

5) Determine the remaining class limits (boundary)

6) Distribute the data into respective classes by using Tally Bars (Tally Marks) methods

Based on the criteria above, the working table can be calculated and the graph of histogram with polygon trendline can be described.

b. Determining central tendency of a distribution

The central tendency of a distribution locates the "center" of a distribution of values. The three major types of estimates of central tendency are the mean, the median, and the mode.

1) Mean $\left(\overline{X}\right)$

The mean is the average of a set of values, or distribution. To compute the mean as individual data is to take the sum of the values divided by the number of respondents.

$$\overline{X} = \frac{\sum X}{n}$$

Meanwhile, the following formula can be used to compute the mean in frequency distribution (with working table).

$$\overline{X} = \frac{\sum f_1 X_1}{n} \quad \text{or} \quad \overline{X} = X_o + i\left(\frac{\sum f_1 c_1}{\sum f_1}\right)$$

2) Mode (M_o)

The mode is the most frequently occurring value in the set. To determine the mode as individual data, compute the distribution as above. The mode is the value with the greatest frequency. Meanwhile, the following formula can be used to compute the mode in frequency distribution (with working table).

$$M_o = L + i\left(\frac{f_1}{f_1 + f_2}\right)$$

3) Median (Me)

The median is the score found at the middle of the set of values. One way to compute the median as individual data is to sort the values in numerical order, and then locate the value in the middle of the list. Meanwhile, the following formula can be used to compute the median in frequency distribution (with working table).

$$Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right)$$

c. Determining dispersion of Standard Deviation

Dispersion is the spread of values around the central tendency. There are two common measures of dispersion, the range and the standard deviation. The range is simply the highest value minus the lowest value. The standard deviation shows the relation that set of scores has to the mean of the sample.

The following formula can be used to determine the standard deviation as individual data.

$$s = \sqrt{\frac{\sum\left(X - \overline{X}\right)^2}{n-1}} \text{ or } s = \sqrt{\frac{\sum X^2}{n-1}} \text{ where } \sum x^2 = \sum X^2 - \frac{\left(\sum X\right)^2}{n}$$

Meanwhile, the following formula can be used to compute the standard deviation in frequency distribution (with working table).

$$s = \sqrt{\frac{\sum f_1 X_1 - \frac{\left(\sum f_i x_i\right)^2}{n}}{n-1}} \quad \text{or} \quad s = \sqrt{i^2\left[\frac{\sum f_1 c_1{}^2 - \frac{\left(\sum f_1 c_1\right)^2}{n}}{n-1}\right]}$$

2. Pre-requisite Testing

The data analysis used in the research is the analysis of two-way variance with the same cell. Budiyono (2004: 206) states that before running the two-way ANOVA test, the data have to meet the following prerequisites: (1) the data must come from populations which are distributed normally; and (2) the data must come from populations which are distributed homogenously. Thus, the normality and homogeneity test must be applied first.

a. Normality Test

The normality test is used to determine whether the obtained data have normal distribution or not. To test population normality in the 8 groups of data distribution mentioned above, Lilliefors test was used. The procedure of this test is as follows:

1) Determining Hypotheses

H_0 : sample comes from normal population.

H_1 : sample does not come from normal population.

2) Level of significance: $\alpha = 0.05$

3) Statistical test

$$L_i = Max|F(z_i) - S(z_i)| \quad \text{where } s = \sqrt{\frac{\left(X - \overline{X}\right)^2}{n-1}} \quad \text{and} \quad z_i = \frac{X_i - \overline{X}}{s}$$

$$F(z_i) = 0{,}5 +/- (\text{Table Z}) \text{ and } S(z_i) = \frac{1}{n}$$

4) Critical Area

CA = {L | L > L α,n } with n is the sample size

L α,n is taken from Lilliefors Table.

5) Test Result

H_0 is rejected if L ∈ CA or H_0 is accepted if L ∉ CA

Sample comes from normal population if H_0 is accepted (Budiyono, 2004: 169). By using Liliefors table, if $L_{observation}$ is lower than L_{table} (or $L_o < L_t$), it can be concluded that sample is in normal distribution.

b. Homogeneity Test

The homogeneity test is used in order to find out whether the research population has the same variance or not. The homogeneity of the population was tested by Barlett Test. The procedure of this test is as follows:

1) Determining Hypotheses

H_0 : $\sigma_1^2 = \sigma_2^2 = ... = \sigma_k^2$ (the populations are homogeneous)

H_1 : Not all the variance are the same (the populations are not homogeneous).

2) Level of significance: $\alpha = 0.05$

3) Statistical test

$$\chi^2 = \frac{2.303}{c}\left(f \log MSE - \sum f_j \log S_j^2 \right)$$

or

$$\chi^2 = (\text{In}10)\{B - \sum(n_1 - 1)\text{logs}_i^2\}$$

4) Critical Area

$CA = \left\{ \chi^2 \middle| \chi^2 > \chi^2_{a,k-1} \right\}$ with n is the sample size

$\chi^2_{a,k-1}$ is taken from Chi-squared Table.

5) Test Result

H_0 is rejected if $\chi^2 \in$ CA or H_0 is accepted if $\chi^2 \notin$ CA.

The populations are homogeneous if H_0 is accepted (Budiyono, 2004: 176 – 178). By using Chi-squared table, If $\chi^2_{observation}$ is lower than χ^2_{table} (or $\chi_o^2 < \chi_t^2$), it can be concluded that the data are homogeneous.

3. Test of Hypotheses

The test of hypotheses in this research is intended to find out whether there are effects and interaction among the independent variables toward the dependent variable. Based on the prerequisite above, the data analysis of two-way variance with the same cell used in the research must come from populations which are distributed normally and homogenously.

a. Multifactor Analysis of Variance

The test of hypotheses was conducted using Two-way ANOVA with the same cell. The writing scores of both experimental and control group can be analyzed by using the formula of ANOVA as follows:

1) Sum Squares = SS

The between-columns sum of squares:

$$\sum x_{bc}{}^2 = \frac{\sum (X_{c1})^2}{n_{c1}} + \frac{\sum (X_{c2})^2}{n_{c2}} - \frac{\sum (X_t)^2}{N}$$

The between-rows sum of squares:

$$\sum x_{br}{}^2 = \frac{\sum (X_{r1})^2}{n_{r1}} + \frac{\sum (X_{r2})^2}{n_{r2}} - \frac{\sum (X_t)^2}{N}$$

The sum of squares interaction:

$$\sum x_{\text{int}}{}^2 = \sum x^2{}_b - \left(\sum x^2{}_{bc} + \sum x^2{}_{br}\right)$$

The sum of squares between groups:

$$\sum x_b{}^2 = \frac{\sum (X_1)^2}{n_1} + \frac{\sum (X_2)^2}{n_2} + \frac{\sum (X_3)^2}{n_3} + \frac{\sum (X_4)^2}{n_4} - \frac{\sum (X_t)^2}{n}$$

The sum of squares within groups:

$$\sum x_w{}^2 = \sum X_t{}^2 - \sum X_b{}^2$$

The total sum of the squares:

$$\sum x_t{}^2 = \sum X_t{}^2 - \frac{\left(\sum X_t\right)^2}{n}$$

2) degrees of freedom = d.f

dfA (df for between-columns sum of squares) = C – 1

dfB (df for between-rows sum of squares) =R – 1

dfAB (df for interaction) = (C – 1)(R – 1)

dfG (df for between-groups sum of squares) = G – 1

dfE (df for within-groups sum of squares) = Σ(n-1)

dfT (df for total sum of squares) = N – 1

where C = the number of columns;

R = the number of rows;

G = the number of groups;

n = the number of subjects in one group, and

N = the number of subjects in all group.

3) Mean Squares = MS

MSA = SSA / dfA

MSB = SSB / dfB

MSAB = SSAB / dfAB

MSE = SS E / df E

4) $F_{computation} = F_{observation}$

FA = MSA / MSE

FB = MSB / MSE

FAB = MSAB / MSE

5) Critical Area

The critical area for F_a is CA = { F_a | $F_a > F_{table}$ }

The critical area for F_b is CA = { F_b | $F_b > F_{table}$ }

The critical area for F_{ab} is CA = { F_{ab} | $F_{ab} > F_{table}$ }

6) Test Result

H_0 is rejected when $F_{obs} \in$ CA

To know whether the result of data analysis is significant, it is consulted to the F_{table} in the significance level $\alpha = 0.05$.

If the $F_{observation}$ is higher than F_{table}, the null hypothesis (H_0) is rejected and the result of the research is significant. Thus, it is necessary to find out the significant effects or mean test with comparative test by using Tukey's test.

b. Tukey's Test

Tukey's post-hoc test is undertaken when the ANOVA test results show that H_o are rejected. It means each variable has influences. The technique is used to find out the significant effects or mean test with comparative test.

In this research, the formula of Tukey-test used is as follow:

1) Between columns (Quantum method compared with Direct Instruction method to teach writing)

$$q = \frac{\overline{X}_{c1} - \overline{X}_{c2}}{\sqrt{ErrorVariance/n}}$$

2) Between rows (High creativity compared with Low creativity in writing skill)

$$q = \frac{\overline{X}_{r1} - \overline{X}_{r2}}{\sqrt{ErrorVariance/n}}$$

3) Between cells A_1B_1 – A_2B_1 (Quantum method compared with Direct Instruction method to teach writing for the students having high creativity)

$$q = \frac{\overline{X}_{c1r1} - \overline{X}_{c2r1}}{\sqrt{ErrorVariance/n}}$$

4) Between cells A_1B_2 – A_2B_2 (Quantum method compared with Direct Instruction method to teach writing for the students having low creativity)

$$q = \frac{\overline{X}_{c1r2} - \overline{X}_{c2r2}}{\sqrt{ErrorVariance/n}} \text{ or } q = \frac{\overline{X}_{c2r2} - \overline{X}_{c1r2}}{\sqrt{ErrorVariance/n}}$$

$q_{observation}$ is compared with q_{table}, if $q_o > q_t$, the difference is significant. To know which one is better, compare the means.

G. Statistical Hypotheses

In this study, the researcher proposes three hypotheses as follows:

1. The differences between Quantum method (A_1) and Direct instruction method (A_2) to teach writing to the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year.

   H_o: $\mu_{A1} = \mu_{A2}$

   There is no difference in writing skill between the students who were taught by using Quantum method (A_1) and those who were taught by using Direct Instruction method (A_2).

   H_1: $\mu_{A1} > \mu_{A2}$

   Quantum method (A_1) is more effective than Direct Instruction method (A_2) to teach writing.

2. The differences in writing skill between the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year having high creativity (B_1) and those having low creativity (B_2).

   H_o: $\mu_{B1} = \mu_{B2}$

   There is no difference in writing skill between the students having high creativity (B_1) and those having low creativity (B_2).

   H_1: $\mu_{B1} > \mu_{B2}$

   The students having high creativity (B_1) have better writing skill than those having low creativity (B_2).

3. The interaction between teaching methods (A) and students' creativity (B) in teaching writing to the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year.

   H_o: A x B = 0

   There is no interaction between teaching methods (A) and students' creativity (B) in teaching writing.

   H_1: A x B > 0

   There is an interaction between teaching methods (A) and students' creativity (B) in teaching writing.

   .

CHAPTER IV

RESULT AND DISCUSSION

A. Description of Data

The data used in the research are the scores obtained from the result of final writing skill test based on the teaching methods and students' creativity quotient. As mentioned in the previous chapter, descriptive statistics in this research consists of several descriptions of the score data distribution related with the result of tests above, such as: the range, the number of classes, the class width (interval), tally the data, histogram/polygon, the values of mean, mode, median, and standard deviation (as individual data or in frequency distribution) in groups of data distribution.

The descriptions of the data in this research are classified into eight groups: (1) the writing scores of the students who are taught by using Quantum method (A_1); (2) the writing scores of the students who are taught by using Direct Instruction method (A_2); (3) the writing scores of the students having high CQ (B_1); (4) the writing scores of the students having low CQ (B_2); (5) the writing scores of the students having high CQ who are taught by using Quantum method (A_1B_1); (6) the writing scores of the students having low CQ who are taught by using Quantum method (A_1B_2); (7) the writing scores of the students having high CQ who are taught by using Direct Instruction method (A_2B_1); and (8) the writing scores of the students having low CQ who are taught by using Direct Instruction method (A_2B_2).

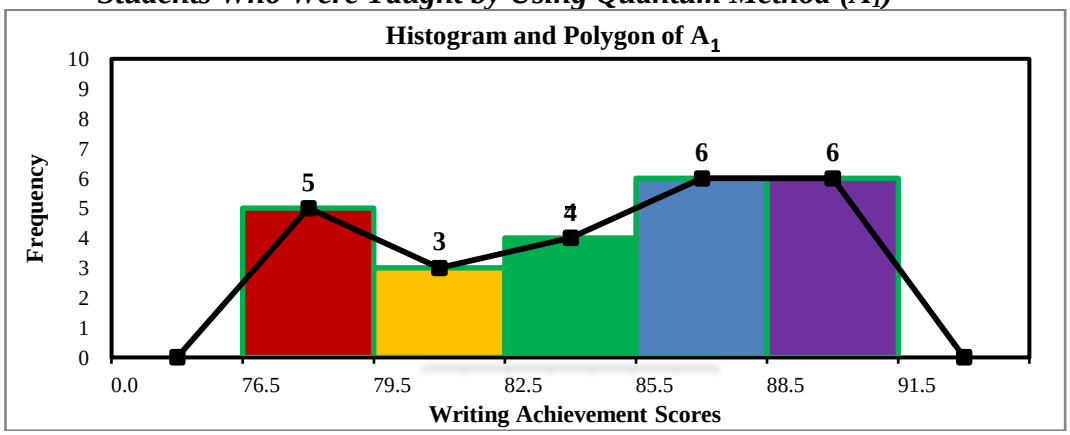
1. The Writing Scores of the Students Who Were Taught by Using Quantum Method (A_1)

Based on the writing scores of 24 students who were taught by using Quantum method (A_1), the highest score is 90 and the lowest one is 78. Thus, the range is 12, the number of class used is 5, and the class width (interval) used is 3. The mean is 84.63, the mode is 88.50, the median is 85.50, and the standard deviation is 4.51. As the result, the frequency distribution for the writing scores of the students who were taught by using Quantum method (A_1) can be seen in table 4.1. Meanwhile, the histogram and polygon for the writing scores of the students who were taught by using Quantum method (A_1) can be seen in figure 4.1.

Table 4.1 Frequency Distribution for the Writing Scores of the Students Who Were Taught by Using Quantum Method (A_1)

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	f_ix_i	Percentage %
1	77-79	76.5-79.5	~~IIII~~	5	78	390	19.20%
2	80-82	79.5-82.5	III	3	81	243	11.96%
3	83-85	82.5-85.5	IIII	4	84	336	16.54%
4	86-88	85.5-88.5	~~IIII~~ I	6	87	522	25.70%
5	89-91	88.5-91.5	~~IIII~~ I	6	90	540	26.59%
				24	420	2031	100.00%

Figure 4.1 Histogram and Polygon for the Writing Scores of the Students Who Were Taught by Using Quantum Method (A_1)



The detailed informations and complete calculations about the data description for the writing scores of the students who were taught by using Quantum method (A_1) are presented in appendix 3.1.1 (p. 345 – 348).

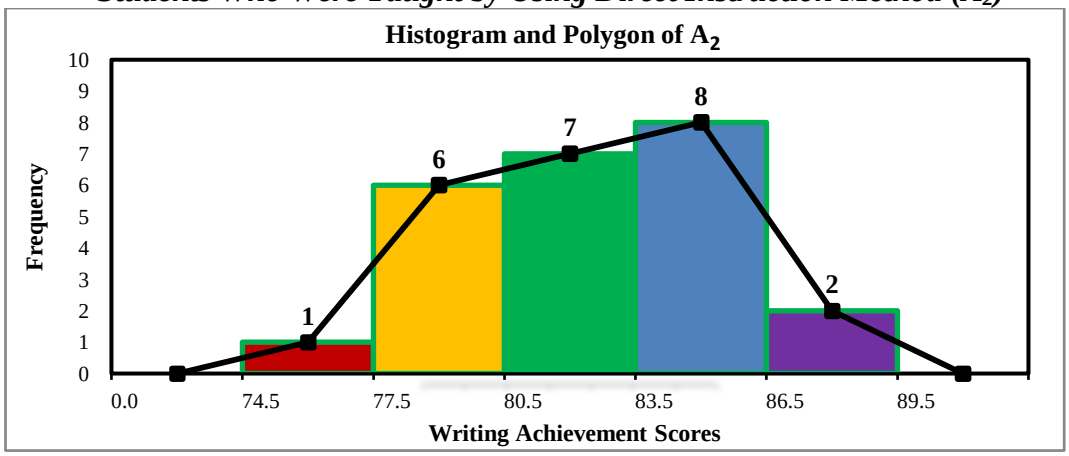
2. The Writing Scores of the Students Who Were Taught by Using Direct Instruction Method (A_2)

Based on the writing scores of 24 students who were taught by using Direct Instruction method (A_2), the highest score is 88 and the lowest one is 77. Thus, the range is 11, the number of class used is 5, and the class width (interval) used is 3. The mean is 82.50, the mode is 83.93, the median is 82.64 and the standard deviation is 3.15. As the result, the frequency distribution for the writing scores of the students who were taught by using Direct Instruction method (A_2) can be seen in table 4.2. Meanwhile, the histogram and polygon for the writing scores of the students who were taught by using Direct Instruction method (A_2) can be seen in figure 4.2.

Table 4.2 Frequency Distribution for the Writing Scores of the Students Who Were Taught by Using Direct Instruction Method (A_2)

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	f_ix_i	Percentage %
1	75-77	74.5-77.5	I	1	76	76	3.84%
2	78-80	77.5-80.5	~~IIII~~ I	6	79	474	23.94%
3	81-83	80.5-83.5	~~IIII~~ II	7	82	574	28.99%
4	84-86	83.5-86.5	~~IIII~~ III	8	85	680	34.34%
5	87-89	86.5-89.5	II	2	88	176	8.89%
				24	410	1980	100.00%

Figure 4.2 Histogram and Polygon for the Writing Scores of the Students Who Were Taught by Using Direct Instruction Method (A_2)



The detailed informations and complete calculations about the data description for the writing scores of the students who were taught by using Direct Instruction method (A_2) are presented in appendix 3.1.2 (p. 349 – 352).

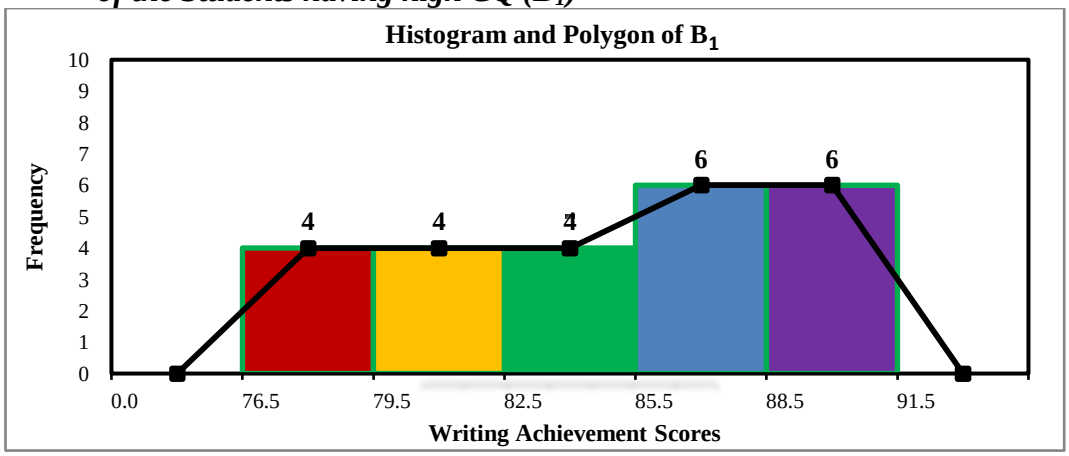
3. The Writing Scores of the Students Having High CQ (B_1)

Based on the writing scores of 24 students having high CQ (B_1), the highest score is 90 and the lowest one is 77. Thus, the range is 13, the number of class used is 5, and the class width (interval) used is 3. The mean is 84.75, the mode is 88.50, the median is 85.50 and the standard deviation is 4.36. As the result, the frequency distribution for the writing scores of the students having high CQ (B_1) can be seen in table 4.3. Meanwhile, the histogram and polygon for the writing scores of the students having high CQ (B_1) can be seen in figure 4.3.

Table 4.3 Frequency Distribution for the Writing Scores of the Students Having High CQ (B_1)

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	$f_i x_i$	Percentage %
1	77-79	76.5-79.5	IIII	4	78	312	15.34%
2	80-82	79.5-82.5	IIII	4	81	324	15.93%
3	83-85	82.5-85.5	IIII	4	84	336	16.52%
4	86-88	85.5-88.5	~~IIII~~ I	6	87	522	25.66%
5	89-91	88.5-91.5	~~IIII~~ I	6	90	540	26.55%
				24	420	2034	100.00%

Figure 4.3 Histogram and Polygon Distribution for the Writing Scores of the Students having high CQ (B_1)



The detailed informations and complete calculations about the data description for the writing scores of the students having high CQ (B_1) are presented in appendix 3.1.3 (p. 353 – 356).

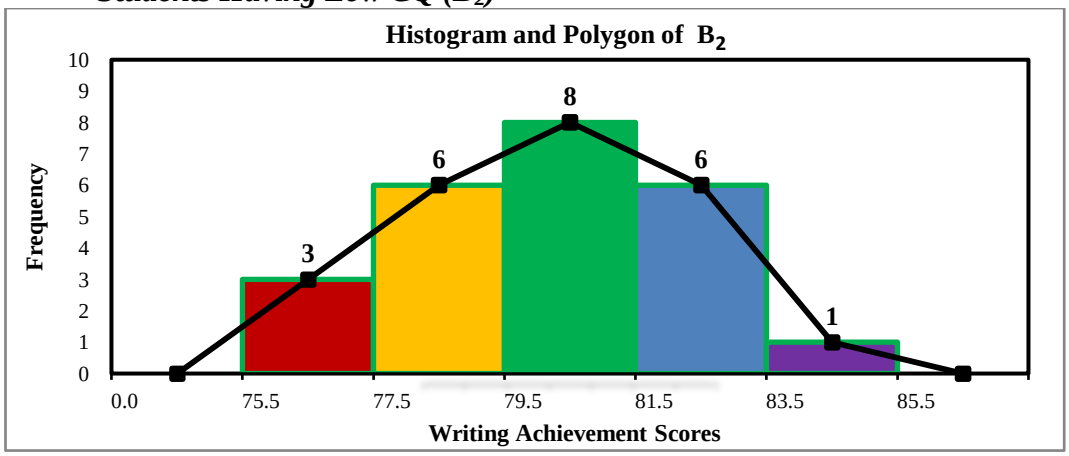
4. The Writing Scores of the Students Having Low CQ (B_2)

Based on the writing scores of 24 students having low CQ (B_2), the highest score is 88 and the lowest one is 78. Thus, the range is 10, the number of class used is 5, and the class width (interval) used is 2. The mean is 80.17, the mode is 80.50, the median is 80.25, and the standard deviation is 2.18. As the result, the frequency distribution for the writing scores of the students having low CQ (B_2) can be seen in table 4.4. Meanwhile, the histogram and polygon for the writing scores of the students having low CQ (B_2) can be seen in figure 4.4.

Table 4.4 Frequency Distribution for the Writing Scores of the Students Having Low CQ (B_2)

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	$f_i x_i$	Percentage %
1	76-77	75.5-77.5	III	3	76.5	229.5	11.93%
2	78-79	77.5-79.5	~~IIII~~ I	6	78.5	471.0	24.48%
3	80-81	79.5-81.5	~~IIII~~ III	8	80.5	644.0	33.47%
4	82-83	81.5-83.5	~~IIII~~ I	6	82.5	495.0	25.73%
5	84-85	83.5-85.5	I	1	84.5	84.5	4.39%
				24	402.5	1924	100.00%

Figure 4.4 Histogram and Polygon for the Writing Scores of the Students Having Low CQ (B_2)



The detailed informations and complete calculations about the data description for the writing scores of the students having low CQ (B_2) are presented in appendix 3.1.4 (p. 357 – 360).

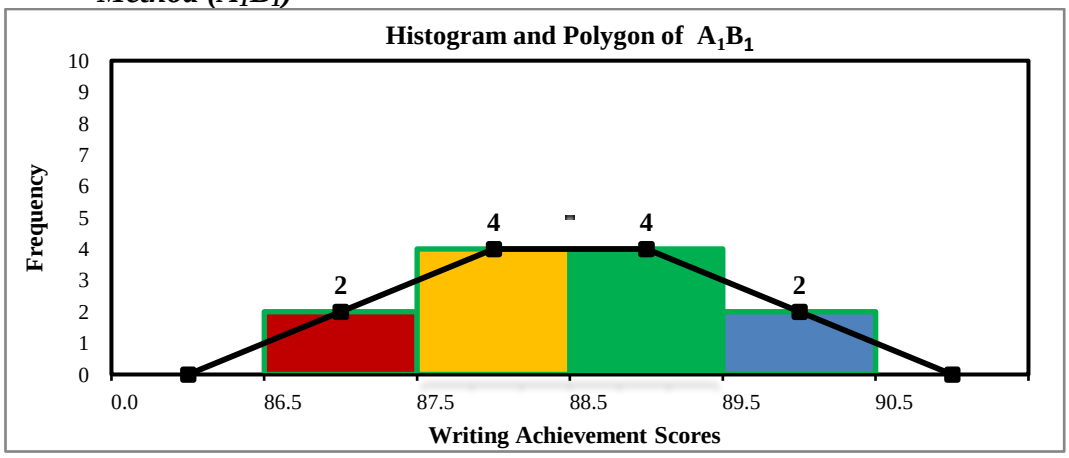
5. The Writing Scores of the Students Having High CQ Who Were Taught by Using Quantum Method (A_1B_1)

Based on the writing scores of 12 students having high CQ who were taught by using Quantum method (A_1B_1), the highest score is 90 and the lowest one is 87. Thus, the range is 3, the number of class used is 4, and the class width (interval) used is 1. The mean is 88.50, the mode is 88.50, the median is 88.50 and the standard deviation is 1.00. As the result, the frequency distribution for the writing scores of the students having high CQ who were taught by using Quantum method (A_1B_1) can be seen in table 4.5. Meanwhile, the histogram and polygon for the writing scores of the students having high CQ who were taught by using Quantum method (A_1B_1) can be seen in figure 4.5.

Table 4.5 Frequency Distribution for the Writing Scores of the Students having High CQ Who Were Taught by Using Quantum Method (A_1B_1)

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	f_ix_i	Percentage %
1	87-87	86.5-87.5	II	2	87	174	16.38%
2	88-88	87.5-88.5	IIII	4	88	352	33.15%
3	89-89	88.5-89.5	IIII	4	89	356	33.52%
4	90-90	89.5-90.5	II	2	90	180	16.95%
				12	354	1062	100.00%

Figure 4.5 Histogram and Polygon for the Writing Scores of the Students Having High CQ Who Were Taught by Using Quantum Method (A_1B_1)



The detailed informations and complete calculations about the data description for the writing scores of the students having high CQ who were taught by using Quantum method (A_1B_1) are presented in appendix 3.1.5 (p. 361 – 364).

6. The Writing Scores of the Students Having Low CQ Who Were Taught by Using Quantum Method (A_1B_2)

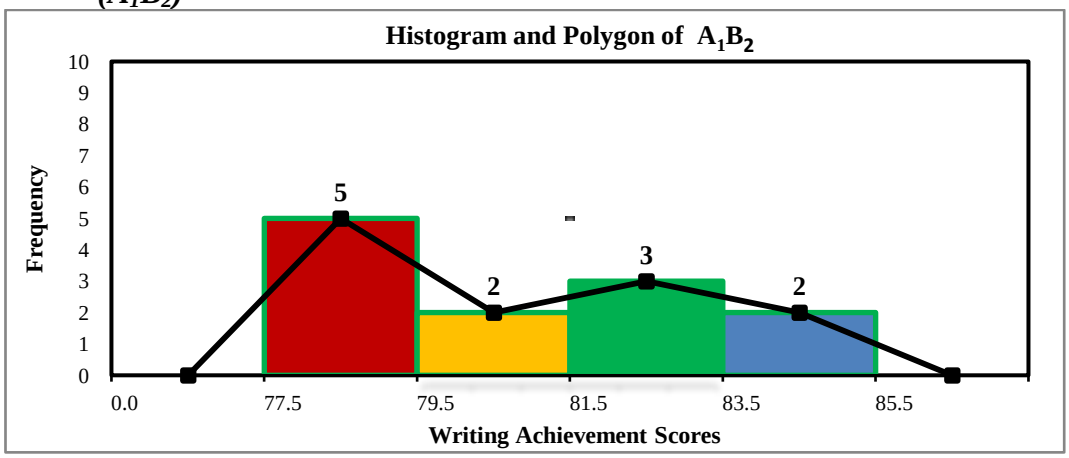
Based on the writing scores of 12 students having low CQ who were taught by using Quantum method (A_1B_2), the highest score is 85 and the lowest one is 78. Thus, the range is 9, the number of class used is 4, and the class width (interval) used is 2. The mean is 80.83, the mode is 78.75, the median is 80.50 and the standard deviation is 2.39. As the result, the frequency distribution for the writing scores of the students having low CQ who were taught by using Quantum

method (A_1B_2) can be seen in table 4.6. Meanwhile, the histogram and polygon for the writing scores of the students having low CQ who were taught by using Quantum method (A_1B_2) can be seen in figure 4.6.

Table 4.6 Frequency Distribution for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Quantum Method (A_1B_2)

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	f_ix_i	Percentage %
1	78-79	77.5-79.5	~~IIII~~	5	78.5	392.5	40.46%
2	80-81	79.5-81.5	II	2	80.5	161.0	16.60%
3	82-83	81.5-83.5	III	3	82.5	247.5	25.52%
4	84-85	83.5-85.5	II	2	84.5	169.0	17.42%
				12	326.0	970.0	100.00%

Figure 4.6 Histogram and Polygon for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Quantum Method (A_1B_2)



The detailed informations and complete calculations about the data description for the writing scores of the students having low CQ who were taught by using Quantum method (A_1B_2) are presented in appendix 3.1.6 (p. 365 – 368).

7. The Writing Scores of the Students Having High CQ Who Were Taught by Using Direct Instruction Method (A_2B_1)

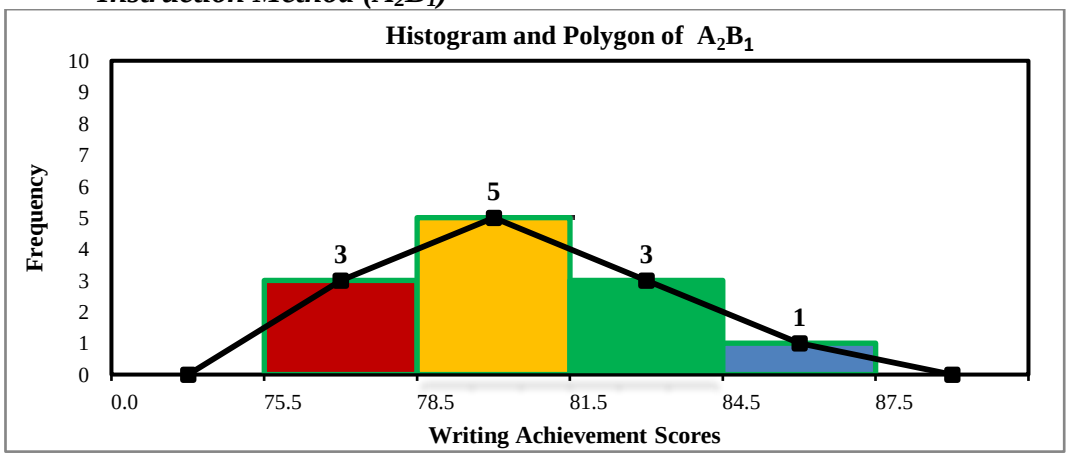
Based on the writing scores of 12 students having high CQ who were taught by using Direct Instruction method (A_2B_1), the highest score is 85 and the

lowest one is 77. Thus, the range is 8, the number of class used is 4, and the class width (interval) used is 3. The mean is 80.50, the mode is 80.00, the median is 80.50, and the standard deviation is 2.81. As the result, the frequency distribution for the writing scores of the students having high CQ who were taught by using Direct Instruction method (A_2B_1) can be seen in table 4.7. Meanwhile, the histogram and polygon for the writing scores of the students having high CQ who were taught by using Direct Instruction method (A_2B_1) can be seen in figure 4.7.

Table 4.7 Frequency Distribution for the Writing Scores of the Students having high CQ Who Were Taught by Using Direct Instruction Method (A_2B_1)

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	f_ix_i	Percentage %
1	76-78	75.5-78.5	III	3	77	231	23.91%
2	79-81	78.5-81.5	~~IIII~~	5	80	400	41.41%
3	82-84	81.5-84.5	III	3	83	249	25.78%
4	85-87	84.5-87.5	I	1	86	86	8.90%
				12	326	966	100.00%

Figure 4.7 Histogram and Polygon for the Writing Scores of the Students Having High CQ Who Were Taught by Using Direct Instruction Method (A_2B_1)



The detailed informations and complete calculations about the data description for the writing scores of the students having high CQ who were taught by using Direct Instruction method (A_2B_1) are presented in appendix 3.1.7 (p. 369 – 372).

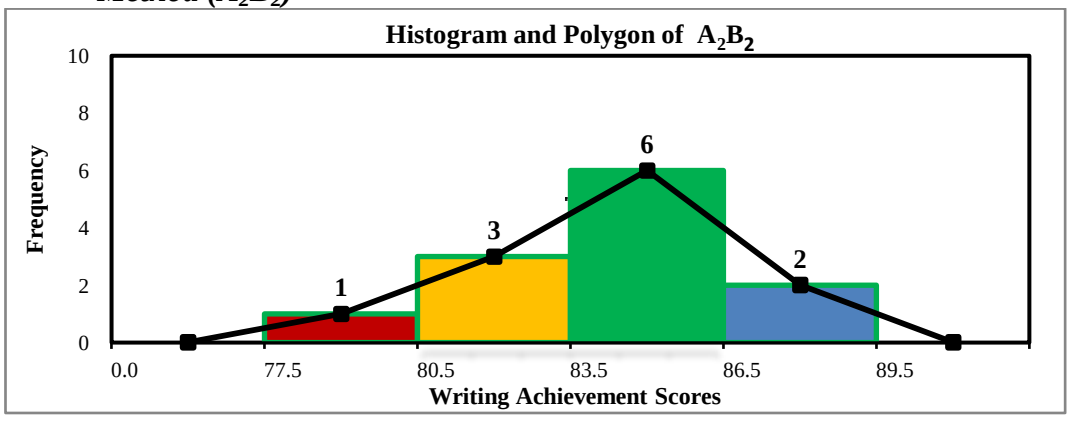
8. The Writing Scores of the Students Having Low CQ Who Were Taught by Using Direct Instruction Method (A_2B_2)

Based on the writing scores of 12 students having low CQ who were taught by using Direct Instruction method (A_2B_2), the highest score is 88 and the lowest one is 80. Thus, the range is 8, the number of class used is 4, and the class width (interval) used is 3. The mean is 84.25, the mode is 84.79, the median is 84.50, and the standard deviation is 2.60. As the result, the frequency distribution of the writing scores of the students' having low CQ who were taught by using Direct Instruction method (A_2B_2) can be seen in table 4.8. Meanwhile, the histogram and polygon of the writing scores of the students' having low CQ who were taught by using Direct Instruction method (A_2B_2) can be seen in figure 4.8.

Table 4.8 Frequency Distribution for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Direct Instruction Method (A_2B_2)

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	f_ix_i	Percentage %
1	78-80	77.5-80.5	I	1	79	79	7.81%
2	81-83	80.5-83.5	III	3	82	246	24.33%
3	84-86	83.5-86.5	~~IIII~~ I	6	85	510	50.45%
4	87-89	86.5-89.5	II	2	88	176	17.41%
				12	334	1011	100.00%

Figure 4.8 Histogram and Polygon for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Direct Instruction Method (A_2B_2)



The detailed informations and complete calculations about the data description for the writing scores of the students having low CQ who were taught by using Direct Instruction method (A_2B_2) are presented in appendix 3.1.8 (p. 373 – 377).

The data of descriptive statistics and the summary of descriptive statistics above can be displayed in the tables 4.9 and 4.10 below.

Table 4.9 The Data of Descriptive Statistics

No	Groups	N	Total	Max	Min	Range	Class	Interval
1	A_1	24	2032	90	78	12	5	3
2	A_2	24	1978	88	77	11	5	3
3	B_1	24	2031	90	77	13	5	3
4	B_2	24	1979	88	78	10	5	2
5	A_1B_1	12	1062	90	87	3	4	1
6	A_1B_2	12	970	85	78	7	4	2
7	A_2B_1	12	969	85	77	8	4	3
8	A_2B_2	12	1009	88	80	8	4	3

Table 4.10 The Summary of Descriptive Statistics

No	Groups	N	Mean	Median	Mode	Standard Deviation
1	A_1	24	84.63	85.50	88.50	4.51
2	A_2	24	82.50	82.64	83.93	3.15
3	B_1	24	84.75	85.50	88.50	4.36
4	B_2	24	80.17	80.25	80.50	2.18
5	A_1B_1	12	88.50	88.50	88.50	1.00
6	A_1B_2	12	80.83	80.50	78.75	2.39
7	A_2B_1	12	80.50	80.30	80.00	2.81
8	A_2B_2	12	84.25	84.50	84.79	2.60

B. The Prerequisites Tests

As mentioned in the previous chapter, the data analysis used in the research is the analysis of two-way variance with the same cell. Before running the two-way ANOVA test, the data must come from populations which are distributed normally and homogenously. Therefore, before testing the hypotheses, the normality and the homogeneity of the data must be tested. The normality test is to know that the sample is in normal distribution and the homogeneity test is to know that the data are homogeneous.

1. Normality Test

The normality tests were applied and the technique used in normality test was Lilliefors. By using Lilliefors table, the sample is in normal distribution if L_o ($L_{\text{-obtained}}$) is lower than L_t ($L_{\text{-table}}$) at the level of significance (α) = 0.05.

a. The Normality Test for the Writing Scores of the Students Who Were Taught by Using Quantum Method (A_1)

Based on the calculation result for the writing scores of the students who were taught by using Quantum method (A_1), the highest value of $| F(z_i) - S(z_i) |$ or L_o is 0.1186. From the table of critical value of Liliefors test with the students' number (N) = 24 at the significance level $\alpha = 0.05$, the score of L_t is 0.1730. Because L_o is lower than L_t or L_o (0.1186) < L_t (0.1730), it can be concluded that the data are in normal distribution. The informations about the Normality test for the writing scores of the students who were taught by using Quantum method (A_1) are presented in appendix 3.2.1 (p. 379).

b. The Normality Test for the Writing Scores of the Students Who Were Taught by Using Direct Instruction Method (A_2)

Based on the calculation result for the writing scores of the students who were taught by using Direct Instruction method (A_2), the highest value of | F(zi) – S(zi) | or L_o is 0.0975. From the table of critical value of Liliefors test with the students' number (N) = 24 at the significance level $\alpha = 0.05$, the score of L_t is 0.1730. Because L_o is lower than L_t or L_o (0.0975) < L_t (0.1730), it can be concluded that the data are in normal distribution. The informations about the Normality test for the writing scores of the students who were taught by using Direct Instruction method (A_2) are presented in appendix 3.2.2 (p. 380).

c. The Normality Test for the Writing Scores of the Students Having High CQ (B_1)

Based on the calculation result for the writing scores of the students having high CQ (B_1), the highest value of | $F(z_i) – S(z_i)$ | or L_o is 0.1272. From the table of critical value of Liliefors test with the students' number (N) = 24 at the significance level $\alpha = 0.05$, the score of L_t is 0.1730. Because L_o is lower than L_t or L_o (0.1272) < L_t (0.1730), it can be concluded that the data are in normal distribution. The informations about the Normality test for the writing scores of the students having high CQ (B_1) are presented in appendix 3.2.3 (p. 381).

d. The Normality Test for the Writing Scores of the Students Having Low CQ (B_2)

Based on the calculation result for the writing scores of the students having low CQ (B_2), the highest value of | $F(z_i) – S(z_i)$ | or L_o is 0.0884. From the

table of critical value of Liliefors test with the students' number (N) = 24 at the significance level $\alpha = 0.05$, the score of L_t is 0.1730. Because L_o is lower than L_t or L_o (0.0884) < L_t (0.1730), it can be concluded that the data are in normal distribution. The informations about the Normality test for the writing scores of the students having low CQ (B_2) are presented in appendix 3.2.4 (p. 382).

e. The Normality Test for the Writing Scores of the Students Having High CQ Who Were Taught by Using Quantum Method (A_1B_1)

Based on the calculation result for the writing scores of the students having high CQ who were taught by using Quantum method (A_1B_1), the highest value of $| F(z_i) - S(z_i) |$ or L_o is 0.1915. From the table of critical value of Liliefors test with the students' number (N) = 12 at the significance level $\alpha = 0.05$, the score of L_t is 0.2420. Because L_o is lower than L_t or L_o (0.1915) < L_t (0.2420), it can be concluded that the data are in normal distribution. The informations about the Normality test for the writing scores of the students having high CQ who were taught by using Quantum method (A_1B_1) are presented in appendix 3.2.5 (p. 383).

f. The Normality Test for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Quantum Method (A_1B_2)

Based on the calculation result for the writing scores of the students having low CQ who were taught by using Quantum method (A_1B_2), the highest value of $| F(z_i) - S(z_i) |$ or L_o is 0.1809. From the table of critical value of Liliefors test with the students' number (N) = 12 at the significance level $\alpha = 0.05$, the score of L_t is 0.2420. Because L_o is lower than L_t or L_o (0.1809) < L_t (0.2420), it can be concluded that the data are in normal distribution. The informations

about the Normality test for the writing scores of the students having low CQ who were taught by using Quantum method (A_1B_2) are presented in appendix 3.2.6 (p. 384).

g. The Normality Test for the Writing Scores of the Students Having High CQ Who Were Taught by Using Direct Instruction Method (A_2B_1)

Based on the calculation result for the writing scores of the students having high CQ who were taught by using Direct Instruction method (A_2B_1), the highest value of $| F(z_i) - S(z_i) |$ or L_o is 0.1308. From the table of critical value of Liliefors test with the students' number (N) = 12 at the significance level $\alpha = 0.05$, the score of L_t is 0.2420. Because L_o is lower than L_t or L_o (0.1308) < L_t (0.2420), it can be concluded that the data are in normal distribution. The informations about the Normality test for the writing scores of the students having high CQ who were taught by using Direct Instruction method (A_2B_1) are presented in appendix 3.2.7 (p. 385).

h. The Normality Test for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Direct Instruction Method (A_2B_2)

Based on the calculation result for the writing scores of the students' having low CQ who were taught by using Direct Instruction method (A_2B_2), the highest value of $| F(z_i) - S(z_i) |$ or L_o is 0.1356. From the table of critical value of Liliefors test with the students' number (N) = 12 at the significance level $\alpha = 0.05$, the score of L_t is 0.2420. Because L_o is lower than L_t or L_o (0.1356) < L_t (0.2420), it can be concluded that the data are in normal distribution. The informations about the Normality test for the writing scores of the students having low CQ who

were taught by using Direct Instruction method (A_2B_2) are presented in appendix 3.2.8 (p. 386).

The summary of Normality test using Lilliefors is displayed in the table 4.11 below.

Table 4.11 The Summary of Normality Test Using Lilliefors

No	Groups	N	L_{obs}	L_{table}	Test Result	Test decision	Description
1	A_1	24	**0.1186**	0.173	$L_{obs} < L_{table}$	H_o is accepted	Normal
2	A_2	24	**0.0975**	0.173	$L_{obs} < L_{table}$	H_o is accepted	Normal
3	B_1	24	**0.1272**	0.173	$L_{obs} < L_{table}$	H_o is accepted	Normal
4	B_2	24	**0.0884**	0.173	$L_{obs} < L_{table}$	H_o is accepted	Normal
5	A_1 B_1	12	**0.1915**	0.242	$L_{obs} < L_{table}$	H_o is accepted	Normal
6	A_1 B_2	12	**0.1809**	0.242	$L_{obs} < L_{table}$	H_o is accepted	Normal
7	A_2B_1	12	**0.1308**	0.242	$L_{obs} < L_{table}$	H_o is accepted	Normal
8	A_2 B_2	12	**0.1356**	0.242	$L_{obs} < L_{table}$	H_o is accepted	Normal

The summary of the Normality test using Lilliefors shows that all the values of L_{obs} are lower than L_{table} or ($L_o < L_t$). Therefore, it can be concluded that all of the writing scores were distributed normally.

2. Homogeneity Test

The homogeneity test of the students' writing scores was also applied. Bartlett test is employed to know whether all the variances of the research are homogenous. By using Chi-squared table, the data are homogeneous if $\chi^2_{observation}$ is lower than χ^2_{table} at the level of significance (α) = 0.05.

The summary of Homogeneity test is displayed in the table 4.12 below. Meanwhile, the detail informations and complete calculations about the Homogeneity test are presented in appendix 3.2.9 (p. 388 – 392).

Table 4.12 The Summary of Homogeneity Test

No	Variances	Data	χ^2_{obs}	χ^2_{table}	Test Result	Test decision	Description
1	Among Samples	$X_1 X_2$ $X_3 X_4$	6.723	7.815	$\chi^2_{obs} < \chi^2_{table}$	H_o is accepted	Homogenous
2	Between Columns	$X_1 X_2$	3.129	3.841	$\chi^2_{obs} < \chi^2_{table}$	H_o is accepted	Homogenous
3	Between Rows	$X_3 X_4$	3.570	3.841	$\chi^2_{obs} < \chi^2_{table}$	H_o is accepted	Homogenous

Based on the result, since the summary of the Homogeneity test above shows that the values of $\chi^2_{obs} < \chi^2_t$, H_o was accepted. Thus, it can be concluded that the writing scores for each category were homogenous.

C. Testing Hypotheses

The test of hypotheses in this research is intended to find out whether there are effects and interaction among the independent and moderator variables (teaching methods and CQ scores) toward the dependent variable (writing skill) with the test of Two-way ANOVA with the same cell test followed by Tukey's post hoc test.

1. Two-Way ANOVA

The test of hypotheses was conducted using Two-way ANOVA with the same cell. The summary of a 2x2 multifactor analysis of variance and the the mean scores of each cells are displayed in the tables 4.13 and 4.14 below. Meanwhile, the detail informations and complete calculations are presented in appendix 3.3.1 (p. 394 – 397).

Table 4.13 The Summary of a 2x2 Multifactor Analysis of Variance

Source of Variance	**SS**	**d.f**	**MS**	**F_{obs}**	**$F_{t(.05)}$**	**$F_{t(.01)}$**	**Result**	**Decision $F_{t(.05)}$**	**Decision $F_{t(.01)}$**
Between Columns	60.75	1	60.750	**12.271**	***4.06***	***7.25***	$f_o > f_t$	**significant**	**significant**
Between Rows	56.33	1	56.333	**11.379**	***4.06***	***7.25***	$f_o > f_t$	**significant**	**significant**
Column by rows /Interaction	363.00	1	363.000	**73.322**	***4.06***	***7.25***	$f_o > f_t$	**significant**	**significant**
Between groups	480.08	3	160.028						
Within groups	217.83	44	4.951						
Total	697.92	47	14.849						

Table 4.14 The Mean Scores of Each Cells

CQ (B)	TEACHING METHODS (A)		Total
	Quantum (A_1)	Direct Instruction (A_2)	
High CQ (B_1)	$\overline{X}$ A_1B_1= *88.50*	$\overline{X}$ A_2B_1 = *80.75*	$\overline{X}$ B_1 = **84.63**
Low CQ (B_2)	$\overline{X}$ A_1B_2 = *80.83*	$\overline{X}$ A_2B_2 = *84.08*	$\overline{X}$ B_2 = **82.46**
Total	$\overline{X}$ A_1 = **84.67**	$\overline{X}$ A_2 = **82.42**	$\overline{X}$ *t = 83.54*

Based on the result, it can be concluded that:

a. The effects of applying teaching methods toward the students' writing skill

Because the value of F_o between columns/teaching methods (12.271) is higher than the value of F_t (.05) (4.06) and F_t (.01) (7.25), H_o is rejected and the difference between columns is significant. It means there is a significant difference on the student's writing skill between those who are taught using Quantum method and those who are taught using Direct Instruction method. Teaching methods differ significantly from one another in their effect on the performance of the subjects in the experiment.

In addition, the mean score of the students who were taught by using Quantum Method (84.67) is higher than that of those who were taught by using

Direct Instruction method (82.42). Since the writing skill of the students who were taught by using Quantum method (A_1) is better than that of those who were taught by using Direct Instruction method (A_2), it can be concluded that Quantum method is more effective than Direct Instruction method to teach writing.

b. The effect of CQ scores toward the students' writing skill

Because the value of F_o between rows/CQ scores (11.379) is higher than the value of F_t (.05) (4.06) and F_t (.01) (7.25), H_o is rejected and the difference between rows is significant. It means there is a significant difference on the students' writing skill between those having high CQ and those having low CQ.

In addition, the mean score of the students having high CQ (84.63) is higher than that of those having low CQ (82.46). Since the writing skill of the students having high CQ (B_1) is better than that of those having low CQ (B_2), it can be concluded that the students having high CQ have better writing skill than those having low CQ.

c. The interaction of teaching methods and CQ scores toward the students' writing skill

Because the value of F_o columns by rows/interaction (73.322) is higher than the value of F_t (.05) (4.06) and F_t (.01) (7.25), H_o is rejected. It means there is an interaction between teaching methods and CQ scores toward the students' writing skill. The effect of teaching methods on writing skill depends on the degree of CQ scores.

Since the results of two-way ANOVA show that all the values of, H_0 are rejected which means all hypotheses are significant, it is necessary to find out the

significant effects or mean test with comparative test by using Tukey's post-hoc test.

2. Tukey

The technique used to find out the significant effects or mean test with comparative test is Tukey's test. The differences of mean scores and the summary of Tukey's test are presented in the tables 4.15 and 4.16. Meanwhile, the detail informations and complete calculations of Tukey's post-hoc test are presented in appendix 3.3.2 (p. 398 – 399).

Table 4.15 The Differences of Mean Scores

No	1	2	Result (& Differences)
1	$\overline{X}$ A_1 = **84.67**	$\overline{X}$ A_2 = **82.42**	$\overline{X}$ A_1 > $\overline{X}$ A_2 = *(2.25)*
2	$\overline{X}$ B_1 = **84.63**	$\overline{X}$ B_2= **82.46**	$\overline{X}$ B_1 > $\overline{X}$ B_2 = *(2.17)*
3	$\overline{X}$ A_1B_1 = **88.50**	$\overline{X}$ A_2B_1 = **80.75**	$\overline{X}$ A_1B_1 > $\overline{X}$ A_2B_1 = *(7.75)*
4	$\overline{X}$ A_2B_2 = **84.08**	$\overline{X}$ A_1B_2 = **80.83**	$\overline{X}$ A_2B_2 > $\overline{X}$ A_1B_2= *(3.25)*

Table 4.16 The Summary of Tukey's Test

q_{obs}	q_{table} (0,05)(4,44)	q_{table} (0,01)(4,44)	Result	Description
1. $q = \frac{\bar{X}_{A1} - \bar{X}_{A2}}{\sqrt{error\ \ varience\ /n}}$ = **4.95**	3.79	4.70	$q_{obs} > q_{table}$	Significant
2. $q = \frac{\bar{X}_{B1} - \bar{X}_{B2}}{\sqrt{error\ \ variance\ /n}}$ = **4.77**	3.79	4.70	$q_{obs} > q_{table}$	Significant
3. $q = \frac{\bar{X}_{A1B1} - \bar{X}_{A2B1}}{\sqrt{error\ \ variance\ /n}}$ = **12.07**	3.79	4.70	$q_{obs} > q_{table}$	Significant
4. $q = \frac{\bar{X}_{A2B2} - \bar{X}_{A1B2}}{\sqrt{error\ \ varience\ /n}}$ = **5.06**	3.79	4.70	$q_{obs} > q_{table}$	Significant

Based on the result tables above, it can be concluded that:

a. Quantum method compared with Direct Instruction method ($A_1 – A_2$)

Because the value of q_{obs} between columns A_1 and A_2 which compares Quantum with Direct Instruction method (4.95) is higher than the value of q_t (.05) (3.79) and q_t (.01) (4.70), the difference between columns A_1 and A_2 is significant. So, it can be concluded that Quantum method differs significantly from Direct Instruction method to teach writing.

The mean score of the students who were taught by using Quantum Method ($\bar{X}$ A_1= 84.67) is higher than that of those who were taught by using Direct Instruction method ($\bar{X}$ A_2 = 82.42). Thus, the writing skill of the students who were taught by using Quantum method (A_1) is better than that of those who were taught by using Direct Instruction method (A_2).

b. High creativity compared with low creativity (B_1 - B_2)

Because the value of q_{obs} between rows B_1 and B_2 which compares high with low creativity (4.77) is higher than the value of q_t(.05) (3.79) and q_t(.01) (4.70), the difference between rows B_1 and B_2 is significant. So, it can be concluded that the students having high CQ differ significantly from those having low CQ in their writing skill.

The mean score of the students having high CQ ($\bar{X}$ B_1 = 84.63) is higher than that of those having low CQ ($\bar{X}$ B_2 = 82.46). Thus, the writing skill of the students having high CQ (B_1) is better than that of those having low CQ (B_1).

c. Quantum method compared with Direct Instruction method for students having high creativity ($A_1B_1 - A_2B_1$)

Because the value of q_{obs} between cells A_1B_1 and A_2B_1 which compares Quantum method with Direct Instruction method for students having high CQ (12.07) is higher than the value of q_t(.05) (3.79) and q_t(.01) (4.70), the difference between cells A_1B_1 and A_2B_1 is significant. So, it can be concluded that Quantum method differs significantly from Direct Instruction method to teach writing for students having high CQ.

The mean score of the students having high CQ who were taught by using Quantum method ($\bar{X}$ A_1B_1= 88.50) is higher than that of those having high CQ who were taught by using Direct Instruction method ($\bar{X}$ A_2B_1= 80.75). Thus, the writing skill of the students having high CQ who were taught by using Quantum method (A_1B_1) is better than that of those having high CQ who were taught by using Direct Instruction method (A_2B_1).

d. Direct Instruction method compared with Quantum method for students having low creativity ($A_2B_2 - A_1B_2$)

Because the value of q_{obs} between cells A_2B_2 and A_1B_2 which compares Direct Instruction method with Quantum method for students having low CQ (5.06) is higher than the value of q_t(.05) (3.79) and q_t(.01) (4.70), the difference between cells A_2B_2 and A_1B_2 is significant. So, it can be concluded that Direct Instruction method differs significantly from Quantum method to teach writing for students having low CQ.

The mean score of the students having low CQ who were taught by using Direct Instruction method ($\bar{X}$ A_2B_2 = 84.08) is higher than that of those having low CQ who were taught by using Quantum method ($\bar{X}$ A_1B_2= 80.83). Thus, the writing skill of the students having low CQ scores who were taught by using Direct Instruction method (A_2B_2) is better than that of those having low CQ who were taught by using Quantum method (A_1B_2).

Based on (c) and (d) above, it can be concluded that there is an interaction between teaching methods and creativity in teaching writing skill. It means that Quantum method is more effective than Direct Instruction method to teach writing for the students having high CQ and Direct Instruction method is more effective than Quantum method to teach writing for the students having low CQ. In the other words, the students having high creativity are better taught by using Quantum method and the students having low creativity are better taught by using Direct Instruction method.

D. Discussion of Data Analysis

This experimental research is conducted to find out the effectiveness of Quantum method compared with Direct Instruction method viewed from students' creativity in teaching writing to the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year. Based on the quantitative computations and statistical conclusions above, the researcher needs to express the following discussion of data analysis logically and theoretically related with the variables of the hypotheses in the research.

1. Quantum method is more effective than Direct Instruction method to teach writing to the eighth grade students of SMPN 1 Bulukerto in the 2011/2012 academic year.

Quantum method facilitates the students to write creative compositions inductively in every phase of their learning activities. In the preparing phase the students explore ideas creatively for their compositions by using brainstorming techniques, such as: mind-mapping, clustering, and fast writing. In the drafting phase the students trace and write ideas freely and fluently in their drafts. In the sharing phase the students make their works more consistent, comprehensive, and communicative by giving objective assessments, reflective feedbacks, and positive suggestions on their works one another. In the revising phase the students appreciate and take advantage others' feedbacks to improve and develop their works. In the editing phase the students correct all of the grammatical errors and mechanics mistakes they made in their works. Then, in the revising phase the students rewrite their revised works. At last, in the evaluating phase the students need to check whether their works are complete to evaluate or not. Quantum method emphasizes the involvement of the students in their learning activities. In applying Quantum method to teach writing, the student-centered activities in this method are interactive and the teacher only facilitates learning process in which students are encouraged to be responsible and autonomous. It encourages students to be active learners. The students' creativity is also supported and directed to grow up more independently and authentically since there are also a lot of innovative brainstorming techniques to utilize and increase their whole

intelligences in composing the writing tasks. Quantum method gives students chance and challenge to dig their own ideas and develop their own skill in writing where the students can learn how to generate, develop, and arrange the ideas as a valuable and satisfying writing. Moreover, Quantum method also provides wide space for students to work together and share knowledge. In the sharing stages the students think on their own about a topic and share their thoughts and ideas with other students in the class. Every student is supported by other students' helps to develop their ideas. The interaction promotes effective teamwork. Students have positive interdependence but they do not depend on their friends' opinions. They work cooperatively by helping one another without leaving their own responsibility of learning. Quantum method increase students' self-confidence in exchanging ideas, giving and accepting criticism, and managing their own work. Hence, the students have deeper understanding of the composition materials provided. Based on the procedural descriptions above, logically Quantum teacher pays attention the students' cognitive abilities, encourages their students to be active learners involved actively in the teaching and learning process, accomodates them as a creative writers to discover, explore, and express their ideas/styles, and facilitates them in an effective teamwork with other students to share and help one another in making not only comprehensive but also communicative compositions. As the result, the students who were taught by using Quantum method (A_1) have good writing skills.

In teaching writing skill the cognitivist student-centered Quantum method applies the process-oriented approach in its complete technical procedures of

California Writing project consisting of seven phases of activity: preparing, drafting, sharing, revising, editing, rewriting, and evaluating (DePorter & Hernacki, 2005a: 194–198). Hyland (2003: 24 in Hasan & Akhand, 2010: 81) states the process approach makes processes of writing transparent, and provides basis for teaching. Thus, since Quantum method applied technical procedure of California writing project which is in line with the process approach in teaching writing, it also makes processes of writing transparent, and provides basis for teaching. As the result, the students who were taught by using Quantum method (A_1) can do their writing assignment well.

Based on the logical discussions supported by the theoritical quotations related with Quantum method in teaching writing skill above, it can be concluded that the writing skill of the students who were taught by using Quantum method (A_1) are good. In the other word, Quantum method is an effective method to teach writing.

On the other hand, Direct Instruction method facilitates the teacher in every phase of the teaching activities to take students in writing their composition assignment through the steps of teaching deductively. The orientation phase is used by the teacher as preliminary activities to help the students more prepared of the text composition to be mastered. In the structured practice phase, the teacher leads the students through practice examples. In the guided practice phase, the teacher checks the students' works and gives corrective feedback or provides guidance if necessary. In the independent practice phase, the teacher can provide the students' independent practices on their own without assistance and with

delayed feedback. Thus, actually Direct Instruction method also contributes in improving the students' writing skill, especially in finishing end-product efficiently. Nevertheless, Direct Instruction method refers to the classroom activities which are totally led by the teacher. The teacher dominates almost the entire activities. The teaching and learning process focuses on the teacher's explanations and guidances. The teacher is responsible of transmitting all, whereas the students absorb the teacher's information and do exactly based on the instructions given to them. Although the interaction among teacher and students actually is not always in the form of one-way communication, the students are not empowered to be creative and innovative both in developing their own ideas and determining their own composition style in Direct Instruction method. The students tend to be passive learners and depend on the teacher during the teaching learning process. So, Direct Instruction method logically fosters passive learning with very low student involvement since it does not give enough challenge for students to develop their own creativity. Students tend to receive what teacher has given previously. As the result, Direct Instruction method fails to improve students' writing skill since Direct Instruction method less motivates students to involve in the teaching-learning process. Students only develop their linguistics skill without being given chance to create their own ideas communicatively. The obligation and deadline in finishing the assignment of final accurate products make students like to compose their texts simply and safely in order to pass their minimal target scores at once. So, logically the final products of students' writing compositions seem too rigid, rough, and 'formal'. It does not reflect one's

authentic composition in expressing ideas fluently and uniquely. As the result, the students who were taught by using Direct Instruction method (A_2) do not have writing skills as good as the students who were taught by using Quantum method (A_1).

In teaching writing skill the behaviourist teacher-centered Direct Instruction method applies the product-oriented approach consisting of five phases of teaching activity: orientation, presentation, structured practice, guided practice, and independent practice (Setiawan, et al., 2010: 9 – 11). Hasan & Akhand (2010: 83) states that under the product approach, the maximum number of students tried to recall their previous knowledge and some of them imitated model writing and some reproduced the original. This approach did not help them in producing a good composition given in the exam hall as they failed to showcase their ability to write effectively the structure of the composition in their answer scripts. Thus, since Direct Instruction method in teaching writing applied the technical procedures which is in line with the product approach, there are also some disadvantages of the product approach in it. So, it did not help students in producing a good composition given in the exam hall as they failed to showcase their ability to write effectively the structure of the composition in their answer scripts. As the result, the students who were taught by using Direct Instruction method (A_2) can not do their writing assignment as well as the students who were taught by using Quantum method (A_1).

Based on the logical discussions supported by the theoritical quotations related with Direct Instruction method in teaching writing skill above, it can be

concluded that the writing skill of the students who were taught by using Direct Instruction method (A_2) are not as good as the students who were taught by using Quantum method (A_1). In the other word, Direct Instruction method is not as effective as Quantum method to teach writing.

At last, it can be concluded based on the logical and theoritical discussion above that the writing skill of the students who were taught by using Quantum method (A_1) is better than that of those who were taught by using Direct Instruction method (A_2). In the other word, Quantum method is more effective than Direct Instruction method to teach writing to the eighth grade students of SMPN 1 Bulukerto in the 2011/2012 academic year.

2. The eighth grade students of SMPN 1 Bulukerto in the 2011/2012 academic year having high creativity have better writing skill than those having low creativity

Besides the teaching methods mentioned above, the students' creativities also have significant contribution in improving the students' writing skill. Creativity as one of the internal factors is proved playing important role in determining the quality of students' composition.

Based on the the final scores of their Munandar's verbal creativity tests, the students having high CQ (B_1) logically have good at all or most of the creativity indicators used in the test. It means the students having high CQ are considered as the students who are good at their flexibility of thinking, fluency of thinking, originality of thinking, and elaboration. The students having high creativity tend to be creative, critical, enthusiastic, and innovative than those

having low creativity. Because of their positive attitudes, interests, and capabilities toward their lessons, the students having high creativity commonly try to 'focus' and learn better in the instructional materials and accomplish their tasks assignments more completely and creatively. As the result, logically the students having high CQ (B_1) are able to make their compositions well.

DePorter & Hernacki (2005a: 179) states that writing is a whole brain activity using right and left hemisphere. It means that in writing we need not only using our 'logical intelligence' (left-brain hemisphere, such as: outlining, grammar, etc) but also involving our 'emotion creativity' (right-brain hemisphere, such as: enthusiasm, imagination, etc). Thus, writing as one of the productive language skill can also be viewed as a creative activity. For purposes the empirical research in her dissertation, Munandar (1977: 42 – 43) states that creativity or creative thinking is defined as a process that manifest itself in fluency, in flexibility as well as in originality in thinking. Fluency is to be understood as the ability to come up with ideas rapidly, where the emphasis is on the quantity, and not the quality. Flexibility is the ability to produce a great variety of ideas with freedom from perseveration. Originality refers to the ability to produce ideas that are statistically unique or unusual for the population of which the individual is a member. According to Guilford (1962 in Munandar, 1977: 48) creativity in its narrow sense refers to the abilities that are most characteristics of creative people. Creative abilities (traits) determine whether the individuals has the power to exhibit creative behavior to a noteworthy degree. Guilford (1959) in Anderson (1959: 142 – 161) reports previously on a study in which subjects took tests

measuring various aptitudes or skills, and were also rated for creativity. If the score for an aptitude or skill correlates well with creativity ratings, then that aptitude or skill is held to be an important characteristic of creative people as follows: (1) sensitivity to problems (the ability to see deficiencies that could be changed to make the product better or the situation more effective or more efficient); (2) fluency of thinking (the ability in thinking well and effortless to come up with numerous ideas and/or possible solutions to a problem); (3) flexibility of thinking (the ability to easily move beyond traditional ways of thinking and come up with new ones); (4) originality (the ability to come up with unusual responses, connections, solutions, or approaches); (5) redefinition (the ability to see old things in new ways); (6) elaboration (the ability to come up with the details and/or figure out the steps of a general idea or solution); (7) tolerance of ambiguity (the ability to accept uncertainty and find a way to reconcile the two conflicting views and values without feeling stress or tension); (8) commitment (the ability/motivation/trait that enables the creative person to become deeply involved in the task at hand and to be willing to work hard and to keep on working); (9) risk taking (the willingness to take chances for a person to be flexible and original). All of the personality traits of creative people (such as: fluency, flexibility, originality, etc.) are very important for the students in composing the texts fluently, correctly, and appropriately based on the indicators of the writing skill in this research (content, organization, vocabulary, grammar, and mechanics). Thus, based on the final scores of their Munandar's verbal creativity tests, the students having high CQ (B_1) have good at all or most of the

creativity indicators used in the tests. It means the students having high CQ (B_1) are considered as the students who are good at fluency of thinking, flexibility of thinking, originality of thinking, and elaboration. Since all of the personality traits of creative people (such as: fluency, flexibility, originality, etc.) above are very important for the students in composing the texts fluently, correctly, and appropriately based on the indicators of the writing skill in this research (content, organization, vocabulary, grammar, and mechanics), the students having high CQ (B_1) have good writing skills to do their compositions well.

Based on the logical discussions supported by the theoritical quotations related with the writing skill of the students having high CQ (B_1) above, it can be concluded that the students having high CQ (B_1) have good writing skill.

On the other hand, based on the the final scores of their Munandar's verbal creativity tests, the students having low CQ (B_2) logically do not have good at all or most of the creativity indicators used in the test. It means the students having low CQ (B_2) are considered as the students who are not good at their flexibility of thinking, fluency of thinking, originality of thinking, and elaboration. It makes the students having low creativity tend to be lazy, passive, and anxious in their writing process than the high ones. Because of their negative attitudes, interests, and capabilities toward their works, they commonly face several problems to understand the instructional materials and stuck on some difficulties to accomplish their tasks assignments completely. As the result, logically the students having low CQ (B_2) are not able to make their compositions well.

Because of their achievements in CQ test, the students having low CQ (B_2) do not have all or most of the personality traits of creative people (Guilford, 1959 in Anderson, 1959: 142 – 161). It means the students having low CQ (B_2) are not good at fluency of thinking, flexibility of thinking, originality of thinking, and elaboration as the creativity indicators used in the Munandar's verbal creativity tests. Since writing is also viewed as creative activity (DePorter & Hernacki, 2005a: 179), the creativity criteria above (such as: fluency, flexibility, originality, elaboration) are necessary for the students in creating their compositions fluently, correctly, and appropriately fulfiling the writing skill's indicators (content, organization, vocabulary, grammar, and mechanics) in this research. Thus, as the result, the students having low CQ (B_2) do not have writing skill as good as the students having high CQ (B_1) to do their compositions well.

Based on the logical discussions supported by the theoritical quotations related with the writing skill of the students having low CQ (B_2) above, it can be concluded that the students having low CQ (B_2) do not have writing skill as good as the students having high CQ (B_1).

Based on the theoritical and logical discussion above, it can be concluded that the writing skill of the students having high CQ (B_1) is better than that of those having low CQ (B_2). In the other word, the eighth grade students of SMPN 1 Bulukerto in the 2011/2012 academic year having high creativity have better writing skill than those having low creativity.

3. There is an interaction between teaching methods (A) and students' creativity (B) in teaching writing skill for the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year.

The following are discussions related the interaction between both the teaching methods and students' creativity to teach writing in other groups of data as follows: (1) the writing skill of the students having high CQ who were taught by using Quantum method (A_1B_1) and that of those having high CQ who were taught by using Direct Instruction method (A_2B_1), and (2) the writing skill of the students having low CQ who were taught by using Quantum method (A_1B_2) and that of those having low CQ who were taught by using Direct Instruction method (A_2B_2). Both the types of teaching methods and the level of students' creativity are also proved to interact each other and give significant effect on the students' writing skill. Thus, the effect of teaching methods on writing skill depends on the degree of CQ scores.

a. Quantum method is more effective than Direct Instruction method to teach writing to the eighth grade students having high CQ of SMPN 1 Bulukerto in the 2011/2012 academic year.

As mentioned above, the students having high CQ (B_1) tend to be more creative, critical, enthusiastic, and innovative than those having low creativity. Because of their positive attitudes, interests, and capabilities toward their lessons, the students having high CQ (B_1) commonly try to 'focus' and learn better in the instructional materials and accomplish their tasks assignments more completely and creatively. Logically since writing is actually a creative activity whereas the

creativity criteria above (such as: fluency, flexibility, originality, elaboration) are very necessary for the students in creating their compositions fluently, correctly, and appropriately based on the indicators of the writing skill (content, organization, vocabulary, grammar, and mechanics), the students having high CQ (B_1) potentially have good writing skill to make their compositions well.

Because of their achievements in CQ test, the students having high CQ (B_1) have all or most of the personality traits of creative people (Guilford, 1959 in Anderson, 1959: 142 – 161). It means that the students having high CQ (B_1) are good at fluency of thinking, flexibility of thinking, originality, redefinition, elaboration, tolerance of ambiguity, commitment, and risk taking. Since writing is also viewed as creative activity (DePorter & Hernacki, 2005a: 179), the students having high CQ (B_1) are potentially able to make their compositions well if the students having high CQ (B_1) are taught in a certain way that better matched not only with their high potential abilities but also their unique personal trait to achieve their best. Plucker, et al. (2004: 90 – 91) states that since creativity emerges from an interaction among certain aptitudes, specific cognitive processes, and influences from the environment in which the individual or group exists, the appropriate teaching method should have purposive efforts which can be utilized to cultivate creative aptitudes (e.g., tolerance for ambiguity, flexibility in thinking, perseverance, motivation for creativity) as well as processes that may enhance the probability for creativity (e.g., brainstorming, creative problem solving, and problem-finding processes). Certain enablers such as personality traits shall be welcomed and fostered in class: tolerance of ambiguity, openness to experience,

independence of judgement, unconventional values, curiosity, preference for challenges and complexity, self-confidence, risk-taking (Sternberg & Lubart, 1999 in Ferari, et al., 2009: 44). Sternberg (1998: 256 in Adams, 2006: 7) also found in an experiment that "high school students who were taught in a way that better matched their own pattern of abilities tended to achieve at higher levels than students who were taught in a way that more poorly matched their pattern of abilities." Thus, when students having certain patterns/levels of abilities (including CQ) are taught by using appropriate teaching method, the result will be better than those having different pattern/levels of abilities (including CQ). In short, both the creative personal traits of the students and the teaching methods used in the classroom need to be matched to emerge, improve, and develop their potential abilities. Seltzer & Bentley (1999: 10) in Craft (2001: 13) states that creativity is the application of knowledge and skills in new ways to achieve a valued goal. To achieve this, learners must have four key qualities: (1) the ability to identify new problems, rather than depending on others to define them; (2) the ability to transfer knowledge gained in one context to another in order to solve a problem, (3) a belief in learning as an incremental process, in which repeated attempts will eventually lead to success; and (5) the capacity to focus attention in the pursuit of a goal, or set of goals. However, creative people are actually more complicated than ordinary people because of the uniqueness in their personality traits. Csikszentmihalyi (1996: 1 – 4) states 10 antithetical traits often present in creative people that are integrated with each other in a dialectical tension, as follows: (1) creative people have a great deal of physical energy, but they're also

often quiet and at rest; (2) creative people tend to be smart yet naive at the same time; (3) creative people combine playfulness and discipline, or responsibility and irresponsibility; (4) creative people alternate between imagination and fantasy, and a rooted sense of reality; (5) creative people trend to be both extroverted and introverted; (6) creative people are humble and proud at the same time; (7) creative people, to an extent, escape rigid gender role stereotyping; (8) creative people are both rebellious and conservative; (9) most creative people are very passionate about their work, yet they can be extremely objective about it as well; and (10) creative people's openness and sensitivity often exposes them to suffering and pain, yet also to a great deal of enjoyment. Thus, the students having high CQ (B_1) should be taught in a certain way that better matched not only with their high potential abilities but also their unique personal trait to achieve their best.

Based on the logical discussions supported by the theoritical quotations related with the students having high CQ (B_1) above, it can be concluded that since writing is actually a creative activity whereas the creativity criteria above (such as: fluency, flexibility, originality, elaboration) are necessary for the students in creating their compositions fluently, correctly, and appropriately based on the indicators of the writing skill (content, organization, vocabulary, grammar, and mechanics), the students having high CQ (B_1) are potentially able to make their compositions well. However, the students having high CQ (B_1) need to be taught in a certain way that better matched not only with their high potential abilities but also their unique personal trait to achieve their best. The appropriate

teaching method should have purposive efforts which can be utilized to cultivate creative aptitudes as well as processes that may enhance the probability for creativity. Certain enablers such as personality traits shall be welcomed and fostered in class: tolerance of ambiguity, openness to experience, independence of judgement, unconventional values, curiosity, preference for challenges and complexity, self-confidence, risk-taking.

Quantum method facilitates the students to write creative compositions inductively in every phase of their learning activities. Quantum method is a cognitivist student-centered method which requires and accomodates good students' potentials (including creativity) in its educational process. So, all of the students who were taught by using Quantum method (A_1) are expected to be creative, and active. Since Quantum method provides more chances for the students to be active learners and creative writers individually and collectively, the students having high CQ who were taught by using Quantum method (A_1B_1) will be comfortable because they have high capacities to optimize their potentials in exploring ideas creatively and making their writing compositions fluently. By implementing the Quantum method, the teacher gives opportunities to the students to generate their ideas and thoughts by using some brainstorming techniques to stimulate the creative learners to generate and develop their ideas. It makes the students having high CQ who were taught by using Quantum method (A_1B_1) logically can optimize their creativity when Quantum method is implemented in their classroom activity.

In teaching writing skill the cognitivist student-centered Quantum method applies the process-oriented approach in its complete technical procedures of California Writing project consisting of seven phases of activity: preparing, drafting, sharing, revising, editing, rewriting, and evaluating (DePorter & Hernacki, 2005a: 194–198). Brown (2001: 335 in Onozawa, 2010: 157) claims that the process approach is advantageous to students in language learning because students are the creators of language, they need to focus on content and message, and their own intrinsic motives are valued. Language skill are best learned when learners have their own intrinsic motives. Thus, since Quantum method applied technical procedure of California writing project which is in line with the process approach in teaching writing, Quantum method is also advantageous to students in language learning because students are the creators of language, they need to focus on content and message, and their own intrinsic motives are valued. In addition, the students having high CQ who were taught by using Quantum method (A_1B_1) are comfortable since certain enablers (such as personality traits: tolerance of ambiguity, openness to experience, independence of judgement, unconventional values, curiosity, preference for challenges and complexity, self-confidence, risk-taking) welcomed and fostered in class (Sternberg & Lubart, 1999 in Ferari, et al., 2009: 44). Since Quantum method also has purposive efforts which can be utilized to cultivate creative aptitudes (e.g., tolerance for ambiguity, flexibility in thinking, perseverance, motivation for creativity) as well as processes that may enhance the probability for creativity (e.g., brainstorming, creative problem solving, and problem-finding processes),

creativity emerges from an interaction among certain aptitudes, specific cognitive processes, and influences from the environment in which the individual or group exists (Plucker, et al., 2004: 90 – 91). As the result, the last products created by the students having high CQ who were taught by using Quantum method (A_1B_1) are not only comprehensive but also communicative.

Based on the logical discussions supported by the theoritical quotations related with the students having high CQ who were taught by using Quantum method (A_1B_1) above, it can be concluded that the writing skill of the students having high CQ who were taught by using Quantum method (A_1B_1) are good. In the other word, Quantum method is an effective method to teach writing for the students having high CQ.

On the other hand, Direct Instruction method facilitates the teacher in every phase of the teaching activities to take students in writing their composition assignment through the steps of learning deductively. Thus, Direct Instruction method also contributes in improving the students' writing skill, especially in finishing end-product efficiently. Nevertheless, Direct Instruction method is different from Quantum method since its teaching and learning process focuses on the teacher' explanations and guidances. Thus, Direct Instruction method refers to the classroom activities which are totally led by the teacher. The teacher is responsible of transmitting all, whereas the students absorb the teacher's information and do exactly based on the instructions given to them. The students tend to be passive learners and depend on the teacher during the teaching learning process. So, Direct Instruction method fosters passive learning with very low

student involvement. Although the interaction among teacher and students actually is not always in the form of one-way communication but the students are not empowered to be creative and innovative both in developing their own ideas and determining their own composition style. It makes the students having high CQ who were taught by using Direct Instruction method (A_2B_1) disappointed and frustated since actually they have high capacities to optimize their potentials in exploring ideas creatively. They must adapt the restrictions in their independences, competences, and performances in writing their compositions both by their own ideas and styles. They also have to adopt the obligatory composition which was technically modelled, institutionally instructed, and/or personally wanted by their teacher. So, the students having high CQ who were taught by using Direct Instruction method (A_2B_1) can not utilize their creativity to make their compositions as well as the students having high CQ who were taught by using Quantum method (A_1B_1). As the result, logically it not only makes the students having high CQ who were taught by using Direct Instruction method (A_2B_1) uncomfortable to overcome their mental problems but also causes their compositions unsatisfied.

In teaching writing skill the behaviourist teacher-centered Direct Instruction method applies the product-oriented approach consisting of five phases of teaching activity: orientation, presentation, structured practice, guided practice, and independent practice (Setiawan, et al., 2010: 9 – 11). Since Direct Instruction method in teaching writing applied the technical procedures which is in line with the product approach, there are also some disadvantages of the product approach

in it. Tangpermpoon (2008: 3) states that the product approach gives little attention to audience and the writing purpose since learners and instructors tend to overemphasize on the importance of grammar, syntax, and mechanics. Learners will lack motivation in learning and have high pressure in creating their writing tasks, as their instructors mostly focus on the accuracy of the language structures. In addition, the students having high CQ who were taught by using Direct Instruction method (A_2B_1) are not comfortable since certain enablers (such as personality traits: tolerance of ambiguity, openness to experience, independence of judgement, unconventional values, curiosity, preference for challenges and complexity, self-confidence, risk-taking) are not welcomed and fostered in class (Sternberg & Lubart, 1999 in Ferari, et al., 2009: 44). Since Direct Instruction method neither has purposive efforts which can be utilized to cultivate creative aptitudes (e.g., tolerance for ambiguity, flexibility in thinking, perseverance, motivation for creativity) nor processes that may enhance the probability for creativity (e.g., brainstorming, creative problem solving, and problem-finding processes), creativity does not emerge from an interaction among certain aptitudes, specific cognitive processes, and influences from the environment in which the individual or group exists (Plucker, et al., 2004: 90 – 91). As the result, the last products created by the students having high CQ who were taught by using Direct Instruction method (A_2B_1) are neither comprehensive nor communicative.

Based on the logical discussions supported by the theoritical quotations related with the students having high CQ who were taught by using Direct

Instruction method (A_2B_1) above, it can be concluded that the writing skill of the students having high CQ who were taught by using Direct Instruction method (A_2B_1) are not as good as the students having high CQ who were taught by using Quantum method (A_1B_1). In the other word, Direct Instruction method is not as effective as Quantum method to teach writing for the students having high CQ.

Based on the logical and theoritical discussion related with the students having high CQ who were taught by using both Quantum method and Direct Instruction method above, it can be concluded that the writing skill of the students having high CQ who were taught by using Quantum method (A_1B_1) is better than that of those having high CQ who were taught by using Direct Instruction method (A_2B_1). In the other word, Quantum method is more effective than Direct Instruction method to teach writing to the eighth grade students having high CQ of SMPN 1 Bulukerto in the 2011/2012 academic year.

b. Direct Instruction method is more effective than Quantum method to teach writing to the eighth grade students having low CQ of SMPN 1 Bulukerto in the 2011/2012 academic year.

The students having low CQ (B_2) usually tend to be lazy, passive, and anxious in doing the creative tasks including writing composition. If they have to write composition, they like to do it efficiently based on their teacher's explanations, guided instructions, or text models better than to do it creatively through several processes in generating ideas and expressing them in their own composition. Thus, the students having low CQ (B_2) need to be taught in a conventional way that better matched not only with their potential abilities but

also their personal trait to achieve their ‘best’ they can. Clear explanation, simple example, and easy guidance are logically needed by the students having low CQ (B_2) not only to prevent them in acquiring unsufficient knowledge or guidance but also to enable them comfortable and satisfied in finishing their writing assignments.

Because of their achievements in CQ test, the students having low CQ (B_2) do not have all or most of the personality traits of creative people (Guilford, 1959 in Anderson, 1959: 142 – 161). It means that the students having low CQ (B_2) are not good at sensitivity to problems, fluency of thinking, flexibility of thinking, originality, redefinition, elaboration, tolerance of ambiguity, commitment, and risk taking. Since writing is also viewed as creative activity (DePorter & Hernacki, 2005a: 179), potentially the writing skill of the students having low CQ (B_2) is not as good as that of those having high CQ (B_1). In achieving their ‘best’ they can, the students having low CQ (B_2) should also be taught in a way that better matched with their own pattern of abilities (Sternberg, 1998: 256 in Adams, 2006: 7). The objective of education is actually learning, not teaching. Thus, ideally students in the educational process should be offered a wide variety of ways to learn, among which they could choose or with which they could experiment (Ackoff and Greenberg, 1998: 2). However, Reigeluth (1999: 5 – 6) in Huitt, et al. (2009: 77) identifies 3 criteria to evaluate how well a method works in achieving instructional outcomes: effectiveness, efficiency, and appeal. Effectiveness requires that appropriate indicators of learning (such as specific levels of achievement and fluency) be identified to objectively measure the

learning outcomes. Efficiency requires an optimal use of resources such as time and money to obtain a desired result. Level of appeal relates to the degree to which learners enjoy the instruction and can be especially effective in motivating students to stay engaged on task. Some educators, especially those espousing a child-centered approach, suggest this last criterion should take precedence over the other two. However, this is problematic in that the academically relevant content public schools must cover as part of their charge can require copious time and effort on the part of many students. As a result, immediate satisfaction and enjoyment of the instruction may be difficult to obtain. In addition, Kirschner, et al. (2006: 84) states that there is evidence from controlled studies which almost uniformly supports direct, strong instructional guidance rather than constructivist-based minimal guidance during the instruction of novice to intermediate learners. Not only is unguided instruction normally less effective; there is also evidence that it may have negative results when students acquire misconceptions or incomplete or disorganized knowledge. Thus, being novice to intermediate learners, the students having low CQ (B_2) need a direct, strong instructional guidance to prevent them in acquiring misconceptions or incomplete or disorganized knowledge.

Based on the logical discussions supported by the theoritical quotations related with the students having low CQ (B_2) above, it can be concluded that the students having low CQ (B_2) do not have all or most of the personality traits of creative people. Thus, the students having low CQ (B_2) are not as good as the students having high CQ (B_1) at sensitivity to problems, fluency of thinking,

flexibility of thinking, originality, redefinition, elaboration, tolerance of ambiguity, commitment, and risk taking. Since writing can be viewed as creative activity, the writing skill of the students having low CQ (B_2) is potentially not as good as that of those having high CQ (B_1). Because of their low creative abilities, the students having low CQ (B_2) usually tend to be lazy, passive, and anxious in doing the creative tasks including writing composition and prefer being controlled and guided in finishing their writing assignment task/test. Thus, the students having low CQ (B_2) should be taught in a way that better matched not only with their low potential abilities but also their passive personal trait to achieve their 'best' they can. Clear explanation, simple example, and easy guidance are needed by the students having low CQ (B_2) to achieve their 'best' they can. Thus, it is wise to guide the students having low CQ (B_2) with the appropriate teaching method not only to prevent them in acquiring misconceptions or incomplete or disorganized knowledge but also to enable them comfortable in finishing their writing assignments.

Quantum method facilitates the students to write creative compositions inductively in every phase of their learning activities. Quantum method is a cognitivist student-centered method which requires and accomodates good students' potentials (including creativity) in its educational process. So, the students who were taught by using Quantum method are expected to be creative, and active. It makes the students having low CQ who were taught by using Quantum method (A_1B_2) will get difficulty to explore ideas because of their lackness of creativity to generate ideas. They become confused, disappointed,

exhausted, and frustated since actually they do not have enough capacities and interests to ‘motivate’ themselves in exploring ideas actively and creatively. Thus, since the learning process also expects the students having low CQ who were taught by using Quantum method (A_1B_2) to be not only active learners but also creative writers, logically it makes the students having low CQ who were taught by using Quantum method (A_1B_2) not only uncomfortable to overcome their mental problems but also causes their compositions unsatisfied.

In teaching writing skill the cognitivist student-centered Quantum method applies the process-oriented approach in its complete technical procedures of California Writing project consisting of seven phases of activity: preparing, drafting, sharing, revising, editing, rewriting, and evaluating (DePorter & Hernacki, 2005a: 194–198). Besides all of the advantages mentioned previously, the process approach also have several disadvantages in it. Grossman (2009: 8) states that the process approach is also not perfect since it requires a significant investment of class time to be successful. In addition, it was also developed to meet the needs of the native classroom, where learners, who were already verbally fluent, needed to address the issue of the writing process and as a result, it neglects the linguistic element of written language. Hasan & Akhand (2010: 83) in their research states that under the process approach, most of the students faced problems in brainstorming and organizing their ideas cohesively as they were not familiar with the method. Later they could cope with it, but it took a long time to gather their ideas and organize them. Meanwhile, some failed even after their several attempts as they could not extract the important points necessary for the

topic. The students retreated back to their old fashioned paragraph writing without providing the structure of a paragraph, namely topic sentence, supporting details and a conclusion. It makes substantial time to correct them, and even it was found that at the end of the semester, some students did forget to write topic sentence of a paragraph, even gave two or three paragraphs when they were asked to write a paragraph in spite of much varying help from other sources. Thus, the students having low CQ who were taught by using Quantum method (A_1B_2) are not comfortable and satisfied in their assignments. The students having low CQ who were taught by using Quantum method (A_1B_2) face the same event as the students having high CQ who were taught by using Direct Instruction method (A_2B_1) since both are 'forced' with the 'unmatched' teaching method (Sternberg, 1998: 256 in Adams, 2006: 7). As the result, the last products created by the students having low CQ who were taught by using Quantum method (A_1B_2) are neither comprehensive nor communicative.

Based on the logical discussions supported by the theoritical quotations related with the students having low CQ who were taught by using Quantum method (A_1B_2) above, it can be concluded that the writing skills of the students having low CQ who were taught by using Quantum method (A_1B_2) are not as good as the students having low CQ who were taught by using Direct Instruction method (A_2B_2). In the other word, Quantum method is not an effective method to teach writing for the students having low CQ.

On the other hand, Direct Instruction method facilitates the teacher in every phase of the teaching activities to take students in writing their composition

assignment through the steps of teaching deductively. Direct Instruction method refers to the classroom activities which are totally led by the teacher. In Direct Instruction method, teacher is more active and students are passive. The teacher is responsible of transmitting all, whereas the students absorb the teacher's information and do exactly based on the instructions given to them. So, Direct Instruction method fosters passive learning with very low student involvement. Although the interaction among teacher and students actually is not always in the form of one-way communication but the students are not 'forced' to be creative and innovative both in developing their own ideas and determining their own composition style. The students having low CQ (B_2) just adapt and adopt the compositions which was technically modelled, institutionally instructed, and/or personally wanted by their teacher. Meanwhile, the students having low CQ usually tend to be lazy, passive, and anxious in doing the creative tasks including writing composition. Clear explanation, simple example, and easy guidance are needed by the students having low CQ (B_2) to achieve their 'best' they can since they prefer being controlled and guided in finishing their writing assignment task/test. If they have to write composition, they like to do it efficiently based on their teacher's explanations, guided instructions, or text models better than to do it creatively through several processes in generating ideas and expressing them in their own composition. Although academically and cognitively the educational process is not ideally accepted, the students having low CQ with their low creative abilities and passive personality traits are unexpectedly also able to achieve not only the effective result but also efficient process if they are taught by using

conventional behaviourist teacher-centered Direct Instruction method. The students having low CQ who were taught by using Direct Instruction method (A_2B_2) feel comfortable since they are not 'forced' to be involved actively and to write their compositions creatively in their educational process. Moreover, the students having low CQ who were taught by using Direct Instruction method (A_2B_2) can also achieve their 'best' they can do in writing their 'correct' compositions efficiently and effectively since their teacher has determined previously and directed deductively the 'standardized' compositions for them to adopt safely and adapt accurately without too much time of 'trial and error'. Thus, logically the students having low CQ who were taught by using Direct Instruction method (A_2B_2) can do their compositions more comfortably and accurately than the students having low CQ who were taught by using Quantum method (A_1B_2).

In teaching writing skill the behaviourist teacher-centered Direct Instruction method applies the product-oriented approach consisting of five phases of teaching activity: orientation, presentation, structured practice, guided practice, and independent practice (Setiawan, et al., 2010: 9 – 11). Besides all of the disadvantages mentioned previously, the product approach also have several advantages in it. Tangpermpoon (2008: 3) states the product-oriented approach is widely accepted among writing teachers because they have found several advantages in it for the writing classroom. Firstly, learners learn how to write in English composition systematically from using the pattern-product techniques, namely the logic of English rhetorical patterns such as narration, description, and persuasion. They also learn how to use vocabulary and sentence structures for

each type of rhetorical pattern appropriately. Finally, product-based writing helps instructors raise learners' L2 writing awareness, especially in grammatical structures. Thus, the students having low CQ who were taught by using Direct Instruction method (A_2B_2) face the same event as the students having high CQ who were taught by using Quantum method (A_1B_1) since both are treated by the appropriate teaching method (Sternberg, 1998: 256 in Adams, 2006: 7). Being novice to intermediate learners, the students having low CQ who were taught by using Direct Instruction method (A_2B_2) can achieve their 'best' they can do because they can get a direct, strong instructional guidance to prevent them in acquiring misconceptions or incomplete or disorganized knowledge (Kirschner, et al., 2006: 84). As the result, the last products written by the students having low CQ who were taught by using Direct Instruction method (A_2B_2) are not only more accurate but also more satisfied than the last products created by the students having low CQ who were taught by using Quantum method (A_1B_2).

Based on the logical discussions supported by the theoritical quotations related with the students having low CQ who were taught by using Direct Instruction method (A_2B_2) above, it can be concluded that the writing skill of the students having low CQ who were taught by using Direct Instruction method (A_2B_2) are better than the students having low CQ who were taught by using Quantum method (A_1B_2). In the other word, Direct Instruction method is more effective than Quantum method to teach writing for the students having low creativity.

Based on the logical discussions supported by the theoritical quotations related with the students having low CQ who were taught by using Direct Instruction method (A_2B_2) above, it can be concluded that the writing skill of the students having low CQ who were taught by using Direct Instruction method (A_2B_2) are better than the students having low CQ who were taught by using Quantum method (A_1B_2). In the other word, Direct Instruction method is more effective than Quantum method to teach writing for the students having low creativity.

Based on the discussion of data analysis above, it was then proved that there is an interaction between teaching methods (A) and students' creativity (B) in teaching writing skill for the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year. Being supported by the quantitative computations and statistical conclusions, it can be concluded that Quantum method is more effective than Direct Instruction method to teach writing for the students having high CQ but it is not appropriate to apply toward the students having low CQ. Meanwhile, Direct Instruction method is is more effective than Quantum method to teach writing for the students having low CQ but it is not suitable to apply toward the students having high CQ. So, finally it can be said that the students having high CQ are better taught by using Quantum method in teaching writing skill for the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year but the students having low CQ are better taught by using Direct Instruction method in teaching writing skill for the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year.

CHAPTER V

CONCLUSION, IMPLICATION, AND SUGGESTION

A. Conclusion

Based on the statistical analysis, the findings of the research are as follows:

1. Quantum method is more effective than Direct Instruction method to teach writing.
2. The students having high CQ (B_1) have better writing skill than the students having low CQ (B_2).
3. There is an interaction between two variables, teaching methods and CQ scores in teaching writing for the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year. The students having high CQ who were taught by using Quantum method (A_1B_1) have better writing skills than the students having high CQ who were taught by using Direct Instruction method (A_2B_1). Meanwhile, the students having low CQ who were taught by using Direct Instruction method (A_2B_2) have better writing skills than the students having low CQ who were taught by using Quantum method (A_1B_2).

Thus, based on the three findings above, it can be concluded that there is an interaction between two variables, teaching methods and CQ scores in teaching writing for the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year. The students having high creativity are better taught by using Quantum method than Direct Instruction method. Meanwhile, the students having

low creativity are better taught by using Direct Instruction method than Quantum method.

B. Implication

The research findings imply that the implementation of teaching methods can affect the students' writing skill. The use of Quantum method during classroom activities in the experimental class gives better effect than Direct Instruction method in the control class. The situations could happen because there are some reasons as follows:

1. Quantum method is a new method for the students in the experimental class. The unique joyful learning experiences of Quantum method make them more enthusiastic in the classroom activities than conventional method they used to.
2. Quantum method enables the students to be active and creative in composing their own ideas more authentically. Several brainstorming techniques used in the stage of pre-writing (clustering, mind mapping, fast writing, and show not tell) can encourage and energize them to write.
3. Quantum method can enlarge the students' learning community. The students develop their social performances as well as cognitive competences. In the stages of sharing and revising the students can help one another to accomplish and revise their composition tasks.

Quantum method used in this research applied the procedures of California Writing Project suggested by DePorter & Hernacki (2005a: 194 – 198) consisting of seven phases of activity: preparing, drafting, sharing, revising, editing, rewriting, and evaluating. The procedures are in line with the process writing

approach. To achieve the most optimum writing skill in teaching writing, there are some important things for teachers as follows:

1. Preparing

   In the first phase students build a strong base for the topic based on their own experience and knowledge. Brainstorming techniques (mind mapping, clustering, and fast writing) can be used in exploring ideas creatively for their compositions.

2. Drafting

   In the second phase students trace and develop ideas by focusing in the contents more than punctuation, grammar or spelling. 'Show Not Tell' technique can be used to make the composition more 'fresh' and 'alive'.

3. Sharing

   In the third phase students need to share their compositions one another.

   The important phase of sharing should not be neglected by the students because it would make their compositions become more consistent, comprehensive, and communicative.

4. Revising

   In the fourth phase students revise their works based on the necessary feedbacks they take from others. Since every writer is the master of their own works, students should be wise to appreciate and take advantage others' feedbacks which can improve their works.

5. Editing

   In the fifth phase students should correct all grammatical errors and mechanics mistakes they made in their works to make sure all is correct and complete. It is the time for ‘left-brain’ to play its role as editor.

6. Rewriting

   In the sixth phase students rewrite their revised works with additional new content in necessary editing changes.

7. Evaluating

   In the seventh phase students check whether their works are complete to evaluate or not.

C. Suggestion

Based on the conclusions and implications stated above, the researcher gives some suggestions which are addressed to the teachers, students, and other researchers as follows:

1. For Teachers

Professional teachers should be more active and creative in using various kinds of teaching methods to improve their students’ writing skill. Wise selection in determining teaching method can make the teaching and learning process not only run well but also interesting and enjoyable. The research shows that Quantum method produces great effects on students’ writing skill. Quantum method can lead students to be more active and creative. Thus, it is recommended for teacher to implement Quantum method in their teaching and learning activities

because of its advantages toward the students' competences and the teacher's performance.

In addition, teachers should pay attention the psychological aspect, creativity, since it really plays an important role besides the teaching methods applied in the teaching learning process based on the research findings. So, it is suggested for professional teacher to emerge, energize, and develop their students' creativity to improve their writing skill.

2. For Students

Students are suggested to apply a lot of learning techniques in Quantum method. Being good writers, they should not only be active and creative to practice in generating and developing ideas with brainstorming techniques but also communicative and interactive in sharing and revising their ideas with others in their learning community to develop and improve their writing composition.

Students should pay attention their own creativity. Since creativity is needed to write good composition, students are also suggested to encourage and energize their creativity by themselves.

3. For Other Researchers

Without the self-intention to underestimate the research, the writer believes that this thesis may contain a large number of mistakes that needs so many corrections and suggestions. So, please criticize it to make the work better.

With all the limitations certainly existed in it, hopefully, this little work can be utilized as an additional reference for a such kind of the research. Other

researchers can use the result of the study as the starting point for similar research with different characteristics of population and variables in the future.

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APPENDICES

PEMERINTAH KABUPATEN WONOGIRI
DINAS PENDIDIKAN NASIONAL
SMP NEGERI 1 BULUKERTO
Alamat :Guli, Bulukerto, Wonogiri, Telp. 0273330766

APPENDIX

1

THE EFFECTIVENESS OF QUANTUM METHOD
TO TEACH WRITING VIEWED FROM STUDENTS' CREATIVITY
An Experimental Research to the Eighth Grade Students of SMP N 1 Bulukerto in the 2011/2012 Academic Year

RESEARCH INSTRUMENT

1.1 Lesson Plan of Experimental Class

1.2 Lesson Plan of Control Class

1.3 The Initial Creativity Test (Munandar's TKV)

1.4 The Final WritingTest (Guided Composition)

ENGLISH DEPARTMENT
GRADUATE SCHOOL
SEBELAS MARET UNIVERSITY
2013

PEMERINTAH KABUPATEN WONOGIRI
DINAS PENDIDIKAN NASIONAL
SMP NEGERI 1 BULUKERTO
Alamat : Guli, Bulukerto, Wonogiri, Telp. 0273330766

APPENDIX 1
RESEARCH INSTRUMENT

1.1

THE EFFECTIVENESS OF QUANTUM METHOD
TO TEACH WRITING VIEWED FROM STUDENTS' CREATIVITY
An Experimental Research to the Eighth Grade Students of SMP N 1 Bulukerto
in the 2011/2012 Academic Year

Lesson Plan of Experimental Class

ENGLISH DEPARTMENT
GRADUATE SCHOOL
SEBELAS MARET UNIVERSITY
2013

Appendix 1.1.1

LESSON PLAN 1
(Experimental Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Functional written text (Notice, Caution, and Warning)
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Functional written text

Functional text is used for everyday information. It is called functional because it helps you function in your day- to- day life.

Notice , Caution , and Warning

Notice is a board or a sign displaying information. It is used to emphasize points or remind readers of something, or to indicate minor problems in the outcome of what they are doing. Notice is used to address practices not related to personal injury.

Example	**WAITING ROOM**	It means this is a place for you to wait

Caution is a warning or a piece of advice about possible danger or risk. It is used to warn readers about possible damage to equipment or data or about potential problems in the outcome of what they are doing. Caution indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

Example		It means we have to be careful because of the wet floor.

Warning is a statement, an event etc telling somebody so that something bad or unpleasant may happen in the future so that they can try to avoid it. It is used to warn readers about the possibility of minor injury to themselves or others. Warning indicates a hazardous situation which, if not avoided, could result in death or serious injury.

Example 

It means the water is very hot so we must keep away the children

VI. Teaching technique:

Quantum Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Students' Activities	Teacher's Activities
1	Prewriting	Students build a strong base for the topic by using brainstorming techniques ***(Fastwriting)***	Teacher guides students to explore ideas fluently and creatively .
2	Drafting	Students develop the content of ideas in drafts.	Teacher checks and guides students in making their drafts .
3	Sharing	Students share their drafts and give feedbacks one another	Teacher guides students to give necessary feedbacks to others' drafts
4	Revising	Students revise their works based on the others'feedbacks.	Teacher guides students in revising the works wisely.
5	Editing	Students correct all grammatical errors and mechanics mistakes in their own works.	Teacher checks and guides the students to make sure all is correct, and accurate.
6	Rewriting	Students rewrite their revised works in the final paper completely.	Teacher checks and guides the students in rewriting their works.
7	Evaluating	Students check whether their final works are complete or not .	Teacher checks the completeness of students' final works to evaluate.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :
Write down the functional written text of notice, caution, or warning which you often find in the public area with good grammar, vocabulary, mechanics, content, and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the generalizations may not be fully supported by evidence given; problems or organization interfere.	3
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion is weak or	2

			illogical; inadequate effort at organization	
		Not High school- level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school- level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	5
		Good to Adequate 17-15	Advanced proficiency in English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	4
		Adequate to Fair	Ideas are getting through to the reader grammar problems	3

		14-12	are apparent and have negative effect on communication; run-on sentences or fragments present	
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school- level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to educated readers.	2
		Not High school- level work 5-1	Complete disregard for English writing conventions; paper is illegible; obvious capitals are missing, no margins, severe spelling problems	1
5	**Vocabulary** Vocabulary style and quality of	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to	Attempts variety; good	4

	expression	Adequate 17-15	vocabulary; not wordy; register is ok; style is fairly concise	
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school- level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
Vocabulary = 20
Grammar / Syntax = 25
Mechanics = 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

Approved by
The Principal of
SMP Negeri 1 Bulukerto

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Bulukerto, 8 May 2012
English teacher
Class VIII B

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Appendix 1.1.2

LESSON PLAN 2
(Experimental Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Functional written text (Greeting Card)
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Functional written text

A **greeting card** is an illustrated card used to convey an expression of friendship or other feeling. Greeting cards are usually given on special occasions, such as birthdays, Lebaran day or other holidays, they are also sent to express thanks or congratulation. Greeting cards are usually packaged with an envelope. They are made with various styles.

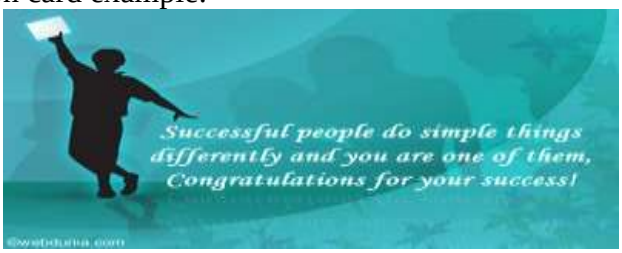
Special Occasion Greeting Card example:

New Year Card

Happy Birthday card example:

Birthday card

congratulation card example:



congratulation card

Thanks greeting card example

Thanks Card

VI. Teaching technique:
Quantum Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Students' Activities	Teacher's Activities
1	Prewriting	Students build a strong base for the topic by using brainstorming techniques ***(Mindmapping)***	Teacher guides students to explore ideas fluently and creatively .
2	Drafting	Students develop the content of ideas in drafts.	Teacher checks and guides students in making their drafts .
3	Sharing	Students share their drafts and give feedbacks one another	Teacher guides students to give necessary feedbacks to others' drafts
4	Revising	Students revise their works based on the others'feedbacks.	Teacher guides students in revising the works wisely.
5	Editing	Students correct all grammatical errors and mechanics mistakes in their own works.	Teacher checks and guides the students to make sure all is correct, and accurate.
6	Rewriting	Students rewrite their revised works in the final paper completely.	Teacher checks and guides the students in rewriting their works.
7	Evaluating	Students check whether their final works are complete or not .	Teacher checks the completeness of students' final works to evaluate.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :

Write down the functional written text of Greeting Card with good grammar, vocabulary, mechanics, content, and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the	3

			generalizations may not be fully supported by evidence given; problems or organization interfere.	
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	2
		Not High school- level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school- level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles,	5

			verb forms and tense sequencing no fragments of run-on sentences	
		Good to Adequate 17-15	Advanced proficiency in English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	4
		Adequate to Fair 14-12	Ideas are getting through to the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	3
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school- level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to	2

			educated readers.	
		Not High school- level work 5-1	Complete disregard for English writing conventions; paper is illegible; obvious capitals are missing, no margins, severe spelling problems	1
5	**Vocabulary** Vocabulary style and quality of expression	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school- level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
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100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

Approved by
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Bulukerto, 9 May 2012
English teacher
Class VIII B

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Appendix 1.1.3

LESSON PLAN 3
(Experimental Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Functional written text (Invitation)
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

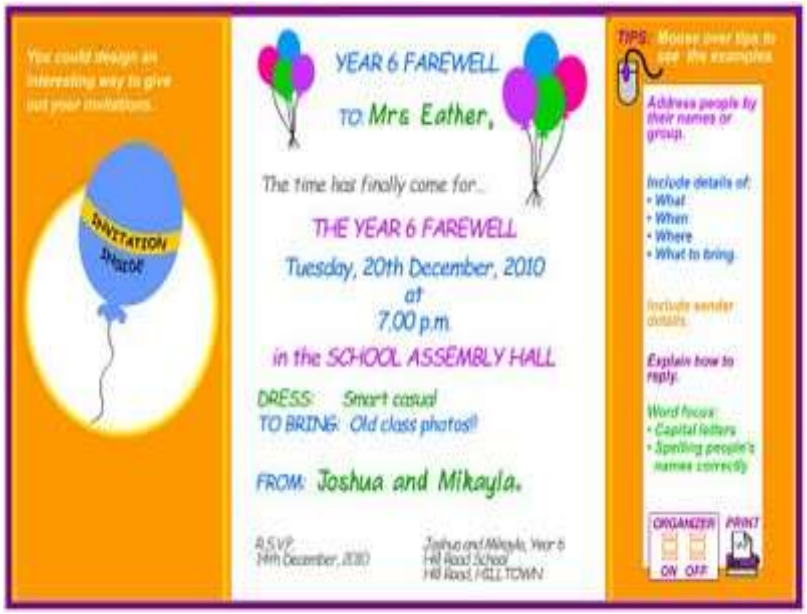
At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Functional written text Invitation

An invitation is a type of letter that functions to invite a guest to a party, an event or a celebration. It serves two purposes: to invite the individual to the event and to ensure that the person receiving the letter is going to attend.



Beyond how many people are attending, the R.S.V.P. will determine who is attending as well as how to deal with seating arrangements, food selection, and service.R.S.V.P comes from the French phrase "Repondez, s'il vous plaet" which in English means, "Please Respond." This is intended for parties and events where you must know exactly who is coming so arrangements can be made for seating, food, and other accommodations.

VI. Teaching technique:
Quantum Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Students' Activities	Teacher's Activities
1	Prewriting	Students build a strong base for the topic by using brainstorming techniques ***(Clustering)***	Teacher guides students to explore ideas fluently and creatively .
2	Drafting	Students develop the content of ideas in drafts.	Teacher checks and guides students in making their drafts .
3	Sharing	Students share their drafts and give feedbacks one another	Teacher guides students to give necessary feedbacks to others' drafts
4	Revising	Students revise their works based on the others'feedbacks.	Teacher guides students in revising the works wisely.
5	Editing	Students correct all grammatical errors and mechanics mistakes in their own works.	Teacher checks and guides the students to make sure all is correct, and accurate.
6	Rewriting	Students rewrite their revised works in the final paper completely.	Teacher checks and guides the students in rewriting their works.
7	Evaluating	Students check whether their final works are complete or not .	Teacher checks the completeness of students' final works to evaluate.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :

Write down the functional written text of invitation with good grammar, vocabulary, mechanics, content, and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the generalizations may not be	3

			fully supported by evidence given; problems or organization interfere.	
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	2
		Not High school- level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school- level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	5

		Good to Adequate 17-15	Advanced proficiency in English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	4
		Adequate to Fair 14-12	Ideas are getting through to the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	3
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school- level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to educated readers.	2
		Not High school- level work 5-1	Complete disregard for English writing conventions; paper is illegible; obvious	1

			capitals are missing, no margins, severe spelling problems	
5	**Vocabulary** Vocabulary style and quality of expression	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school- level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
Vocabulary = 20
Grammar / Syntax = 25
Mechanics = 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

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Suwandi, S.Pd
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Bulukerto, 12 May 2012
English teacher
Class VIII B

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Appendix 1.1.4

LESSON PLAN 4
(Experimental Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Functional written text (Announcement)
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Functional text Announcement

Announcement is a public statement containing information about an event that has happened or is going to happen. An announcement in a public place, such as a newspaper or the window of a shop, is a short piece of writing telling people about something or asking for something.

Example 1:

Attention, please:

To all passengers of Argolawu train, please get on board now. The train is going to leave in 5 minutes. Thank you.

Example 2:

VI. Teaching technique:
Quantum Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Students' Activities	Teacher's Activities
1	Prewriting	Students build a strong base for the topic by using brainstorming techniques ***(Show not Tell)***	Teacher guides students to explore ideas fluently and creatively .
2	Drafting	Students develop the content of ideas in drafts.	Teacher checks and guides students in making their drafts .
3	Sharing	Students share their drafts and give feedbacks one another	Teacher guides students to give necessary feedbacks to others' drafts
4	Revising	Students revise their works based on the others'feedbacks.	Teacher guides students in revising the works wisely.
5	Editing	Students correct all grammatical errors and mechanics mistakes in their own works.	Teacher checks and guides the students to make sure all is correct, and accurate.
6	Rewriting	Students rewrite their revised works in the final paper completely.	Teacher checks and guides the students in rewriting their works.
7	Evaluating	Students check whether their final works are complete or not .	Teacher checks the completeness of students' final works to evaluate.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :
Write down the functional written text of announcement with good grammar, vocabulary, mechanics, content,and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the generalizations may not be fully supported by evidence given;problems or organization	3

			interfere.	
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	2
		Not High school-level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school-level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	5
		Good to Adequate 17-15	Advanced proficiency in English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	4
		Adequate to Fair 14-12	Ideas are getting through to the reader grammar problems are apparent and have negative effect	3

			on communication; run-on sentences or fragments present	
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school-level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to educated readers.	2
		Not High school-level work 5-1	Complete disregard for English writing conventions; paper is illegible; obvious capitals are missing, no margins, severe spelling problems	1
5	**Vocabulary** Vocabulary style and quality of expression	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2

		Not High school-level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
Vocabulary = 20
Grammar / Syntax = 25
Mechanics = 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

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Bulukerto, 15 May 2012
English teacher
Class VIII B

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Appendix 1.1.5

LESSON PLAN 5
(Experimental Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Functional written text (Advertisement)
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Functional written text Advertisement

Advertising is a form of communication intended to persuade an audience (viewers, readers or listeners) to take some action. It is a notice or display that is used to persuade people to buy some products. We can find many advertisements around us, such as in TV, internet, radio, or along the road. There are some products which are offered in the advertisement; including goods, services and job vacation.

Examples:

	***Phone Advertisement***
Urgently Required! **IT ENGINEER** **(Trainee)** Requirements: 1. Male / Female, single 2. Age between 23-27 years old 3. Fresh graduates are welcome 2. Diploma / Bachelor Degree (computer) 3. Familiarity with UNIX operating system 4. Good personality; dedicated, honesty, time target oriented & learning faster. Facilities: 1. Free on job training 2. Free to get international certification 3. Practical modules & good trainers 4. Basic salary + project allowances 5. Job contract & 3 months probation 6. Permanent employee after (5) Submit your resume to email: career@pt-san.com	***Job Vacancy Advertisement***
	***Service Advertisement***

VI. Teaching technique:
Quantum Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Students' Activities	Teacher's Activities
1	Prewriting	Students build a strong base for the topic by using brainstorming techniques ***(Show not Tell)***	Teacher guides students to explore ideas fluently and creatively .
2	Drafting	Students develop the content of ideas in drafts.	Teacher checks and guides students in making their drafts .
3	Sharing	Students share their drafts and give feedbacks one another	Teacher guides students to give necessary feedbacks to others' drafts
4	Revising	Students revise their works based on the others'feedbacks.	Teacher guides students in revising the works wisely.
5	Editing	Students correct all grammatical errors and mechanics mistakes in their own works.	Teacher checks and guides the students to make sure all is correct, and accurate.
6	Rewriting	Students rewrite their revised works in the final paper completely.	Teacher checks and guides the students in rewriting their works.
7	Evaluating	Students check whether their final works are complete or not .	Teacher checks the completeness of students' final works to evaluate.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :

Write down the functional written text of advertisement with good grammar, vocabulary, mechanics, content, and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the generalizations may not be	3

			fully supported by evidence given; problems or organization interfere.	
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	2
		Not High school- level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school- level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	5

		Good to Adequate 17-15	Advanced proficiency in English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	4
		Adequate to Fair 14-12	Ideas are getting through to the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	3
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school- level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to educated readers.	2
		Not High school- level	Complete disregard for English writing conventions;	1

		work 5-1	paper is illegible; obvious capitals are missing, no margins, severe spelling problems	
5	**Vocabulary** Vocabulary style and quality of expression	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school- level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
Vocabulary = 20
Grammar / Syntax = 25
Mechanics = 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

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Bulukerto, 16 May 2012
English teacher
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Appendix 1.1.6

LESSON PLAN 6
(Experimental Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Functional written text (Label, Manual, Schedule)
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Functional written text (Label, Manual, Schedule)

The term "**product label**" is a general term used to refer to printed information affixed to a product (typically retail products) communicated from the manufacturer to consumers or other users.

Example:

SUPLEMENTS FACTS		
Serving size	: 1 tablet	
Serving per container	: 30	
Vitamin C (an non acidic calcium ascortabate)	Amount of serving	% Daily value
Mg 416.67	250 mg	416,67
Calcium (as calcium ascorbate) mg 7.14	50 mg	7,14
Citrus bioflavonoid*	50 mg	
Rutin*	25 mg	
Hesperidin*	25 mg	
Rose hips*	125 mg	
Acerola*	5 mg	
*Daily value not established suggested use: 1 tablet after meal.		
This product contains no artificial colors, flavors, preservatives, milk, egg, sugar, chemical solvent, starch or gluten.		

Manuals include a set of directions and best practices that concern a specific device, such as a car, a household appliance or a software program. Manuals include a set of directions and best practices that concern a specific device, such as a car, a household appliance or a software program.

Schedules describe events occurring across a certain span of time. Example of schedules include calendars, which describe time as a series of subdivisions labeled according to cultural convention, and itineraries, which describe specific series of meetings labeled by time, and generic schedules that describe a continuous succession of events, including television listings and bus route guides. Schedules describe events occurring across a certain span of time. Example of schedules include calendars, which describe time as a series of subdivisions labeled according to cultural convention, and itineraries, which describe specific series of meetings labeled by time, and generic schedules that describe a continuous succession of events, including television listings and bus route guides.

VI. Teaching technique:
Quantum Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Students' Activities	Teacher's Activities
1	Prewriting	Students build a strong base for the topic by using brainstorming techniques ***(Fastwriting)***	Teacher guides students to explore ideas fluently and creatively .
2	Drafting	Students develop the content of ideas in drafts.	Teacher checks and guides students in making their drafts .
3	Sharing	Students share their drafts and give feedbacks one another	Teacher guides students to give necessary feedbacks to others' drafts
4	Revising	Students revise their works based on the others'feedbacks.	Teacher guides students in revising the works wisely.
5	Editing	Students correct all grammatical errors and mechanics mistakes in their own works.	Teacher checks and guides the students to make sure all is correct, and accurate.
6	Rewriting	Students rewrite their revised works in the final paper completely.	Teacher checks and guides the students in rewriting their works.
7	Evaluating	Students check whether their final works are complete or not .	Teacher checks the completeness of students' final works to evaluate.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :

Write down the functional written text of Label, Manual,or Schedule with good grammar, vocabulary, mechanics, content, and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of	3

			ideas in body; the generalizations may not be fully supported by evidence given; problems or organization interfere.	
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	2
		Not High school- level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school- level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses,	5

			preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	
		Good to Adequate 17-15	Advanced proficiency in English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	4
		Adequate to Fair 14-12	Ideas are getting through to the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	3
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school- level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final	2

			punctuations unacceptable to educated readers.	
		Not High school- level work 5-1	Complete disregard for English writing conventions; paper is illegible; obvious capitals are missing, no margins, severe spelling problems	1
5	**Vocabulary** Vocabulary style and quality of expression	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school- level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
Vocabulary = 20
Grammar / Syntax = 25
Mechanics = 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

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Bulukerto, 19 May 2012
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Appendix 1.1.7

LESSON PLAN 7
(Experimental Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Functional written text (Memo/ Short Message, Letter, E mail)
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Functional written text (Memo/ Short Message, Letter, E mail)

Memo/short message is a short written request, note, piece of information, etc. That is given from one person to another indirectly. Memo/short message is a short written request, note, piece of information, etc. That is given from one person to another indirectly.

Example :

To : Sekar

From : Angger
Subject : Get the CD

I am in a hurry to catch the bus. It's quite late. I'm still burning CDs in the teacher's computer. Please, you wait the process and keep all the burn CDs with you. There are 5 CDs more to burn. Don't forget shutting down the computer and disconnect the electric lines.
Thanks a lot.

Examples of Letter

Kupang, May 7, 2008

Dear Paula,
Hello Paula, how are you? It's been a month since I last heard from you. Well, I just wanted to tell you that I was in a hospital last week.
According to the doctor; I was infected by dengue fever. At fi rst, I felt my body became weak then I fainted when I was studying in the classroom. Then, I was taken to the hospital because of the high fever.
At the hospital, I was brought into the emergency unit. The doctor immediately gave some treatment. Finally, I had to stay there for one week. Everyday the doctor kept me on a drip.
At the seventh day, my condition was getting better. After the fi nal check, the doctor gave me permission to go home. Now, I'm okay and because of my illness, I am now more careful about keeping in my house clean especially my room, I don't want to get the same illness again.
OK, I think that's all from me, write to me soon ok?

Regards
Nadira

VI. Teaching technique:
Quantum Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Students' Activities	Teacher's Activities
1	Prewriting	Students build a strong base for the topic by using brainstorming techniques ***(Show not Tell)***	Teacher guides students to explore ideas fluently and creatively .
2	Drafting	Students develop the content of ideas in drafts.	Teacher checks and guides students in making their drafts .
3	Sharing	Students share their drafts and give feedbacks one another	Teacher guides students to give necessary feedbacks to others' drafts
4	Revising	Students revise their works based on the others'feedbacks.	Teacher guides students in revising the works wisely.
5	Editing	Students correct all grammatical errors and mechanics mistakes in their own works.	Teacher checks and guides the students to make sure all is correct, and accurate.
6	Rewriting	Students rewrite their revised works in the final paper completely.	Teacher checks and guides the students in rewriting their works.
7	Evaluating	Students check whether their final works are complete or not .	Teacher checks the completeness of students' final works to evaluate.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :

Write down the functional written text of Memo/ Short Message, Letter, or E mail with good grammar, vocabulary, mechanics, content, and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the	3

			generalizations may not be fully supported by evidence given; problems or organization interfere.	
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	2
		Not High school- level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school- level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles,	5

			verb forms and tense sequencing no fragments of run-on sentences	
		Good to Adequate 17-15	Advanced proficiency in English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	4
		Adequate to Fair 14-12	Ideas are getting through to the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	3
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school- level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to	2

			educated readers.	
		Not High school- level work 5-1	Complete disregard for English writing conventions; paper is illegible; obvious capitals are missing, no margins, severe spelling problems	1
5	**Vocabulary** Vocabulary style and quality of expression	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school- level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
Vocabulary = 20
Grammar / Syntax = 25
Mechanics = 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

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Bulukerto, 22 May 2012
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Appendix 1.1.8

LESSON PLAN 8
(Experimental Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Recount
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

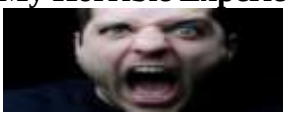
At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Recount – Experience & Biography

My Horrible Experience



Let me remind you my experience during an earthquake last week. When the earthquake happened, I was on my car. I was driving home from my vocation to Bali. Suddenly my car lunched to one side, to the left. I thought I got flat tire. I did not know that it was an earthquake. I knew it was an earthquake when I saw some telephone and electricity poles falling down to the ground, like matchsticks.

Then I saw a lot of rocks tumbling across the road. I was trapped by the rock. Even I could not move my car at all. There were rocks everywhere. There was nothing I could do but left the car and walked along way to my house, in the town.

When I reached my town, I was so surprised that there was almost nothing left. The earthquake made a lot of damage to my town. Although nothing was left, I thanked God that nobody was seriously injured.

Source : http://www.belajarbahasainggris.us/2012/01/contoh-teks-recount-my-horrible. html

RECOUNT

Social Function

To retell events for the purpose of informing or entertaining

Generic Structure

a) Orientation: provides the setting and introduces participants
b) Events: tell what happened, in what sequence.
c) Re-orientation: optional-closure of events

Significant Lexicogrammatical Features

a) Focus on specific Participants
b) Use of material processes
c) Circumstances of time and place
d) Use of past tense
e) Focus on temporal sequence.

VI. Teaching technique:

Quantum Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Students' Activities	Teacher's Activities
1	Prewriting	Students build a strong base for the topic by using brainstorming techniques ***(Clustering)***	Teacher guides students to explore ideas fluently and creatively .
2	Drafting	Students develop the content of ideas in drafts.	Teacher checks and guides students in making their drafts .
3	Sharing	Students share their drafts and give feedbacks one another	Teacher guides students to give necessary feedbacks to others' drafts
4	Revising	Students revise their works based on the others'feedbacks.	Teacher guides students in revising the works wisely.
5	Editing	Students correct all grammatical errors and mechanics mistakes in their own works.	Teacher checks and guides the students to make sure all is correct, and accurate.
6	Rewriting	Students rewrite their revised works in the final paper completely.	Teacher checks and guides the students in rewriting their works.
7	Evaluating	Students check whether their final works are complete or not .	Teacher checks the completeness of students' final works to evaluate.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :
Write down the written text of Recount with good grammar, vocabulary, mechanics, content, and organization.

XI. Scoring Rubrics of Writing:

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the generalizations may not be fully supported by evidence given; problems or organization interfere.	3
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	2
		Not High	Absence of introduction; or	1

		school- level work 5-1	conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school- level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	5
		Good to Adequate 17-15	Advanced proficiency in English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	4
		Adequate to Fair 14-12	Ideas are getting through to the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	3

		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school- level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to educated readers.	2
		Not High school- level work 5-1	Complete disregard for English writing conventions; paper is illegible; obvious capitals are missing, no margins, severe spelling problems	1
5	**Vocabulary** Vocabulary style and quality of expression	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair	Some vocabulary are misused; lacks of awareness of register,	3

		14-12	may be too wordy	
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school- level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
Vocabulary = 20
Grammar / Syntax = 25
Mechanics = 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

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Appendix 1.1.9

LESSON PLAN 9
(Experimental Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Narrative
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Narrative

Snow White

Orientation

Once upon a time there lived a little girl named Snow White. She lived with her Aunt and Uncle because her parents were dead.

Major Complication

One day she heard her Uncle and Aunt talking about leaving Snow White in the castle because they both wanted to go to America and they didn't have enough money to take Snow White.

Resolution

Snow White did not want her Uncle and Aunt to do this so she decided it would be best if she ran away. The next morning she ran away from home when her Aunt and Uncle were having breakfast. she ran away into the woods.

Complication

She was very tired and hungry.

Resolution

Then she saw this little cottage. she knocked but no one answered so she went inside and fell asleep.

Complication

Meanwhile, the seven dwarfs were coming home from work. They went inside. There they found Snow White sleeping. Then Snow White woke up. She saw the dwarfs. The dwarfs said, what is your name? Snow White said, 'My name is Snow White'.

Major Resolution

Doc said, 'If you wish, you may live here with us". Snow White said, 'Oh could(I) ?.Thankyou'. Then Snow White told the dwarfs the whole story and Snow White and the 7 dwarfs lived happily ever after.

GENRE	SOCIAL FUNCTION	GENERIC STRUCTURE	SIGNIFICANT LEXICOGRAMMATICAL FEATURES
Narrative	To amuse, entertain and to deal with actual or vicarious experience in different ways; Narratives deal with problematic events which lead to a crisis or turning point of some kind, which in turn finds a resolution.	**1.Orientation :** sets the scene and introduces the participants. • ***Evaluation:*** *a stepping back to evaluate the plight.* **2.Complication :** a crisis arises. **3.Resolution**:th e crisis is resolved , for better or for worse. •***Re-orientation****: optional*	• Focus on specific and usually individualized Participants. • Use of Material Processes (and in this text, Behavioural and Verbal Processes. • Use of Relational Processes and Mental Processes. • Use of temporal conjunctions and temporal Circumstances. • Use of past tense.

VI. Teaching technique:
Quantum Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Students' Activities	Teacher's Activities
1	Prewriting	Students build a strong base for the topic by using brainstorming techniques ***(Mindmapping)***	Teacher guides students to explore ideas fluently and creatively .
2	Drafting	Students develop the content of ideas in drafts.	Teacher checks and guides students in making their drafts .
3	Sharing	Students share their drafts and give feedbacks one another	Teacher guides students to give necessary feedbacks to others' drafts
4	Revising	Students revise their works based on the others'feedbacks.	Teacher guides students in revising the works wisely.
5	Editing	Students correct all grammatical errors and mechanics mistakes in their own works.	Teacher checks and guides the students to make sure all is correct, and accurate.
6	Rewriting	Students rewrite their revised works in the final paper completely.	Teacher checks and guides the students in rewriting their works.
7	Evaluating	Students check whether their final works are complete or not .	Teacher checks the completeness of students' final works to evaluate.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :
Write down the text of Narrative with good grammar, vocabulary, mechanics, content, and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the generalizations may not be fully supported by evidence	3

			given; problems or organization interfere.	
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	2
		Not High school-level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school-level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	5
		Good to Adequate	Advanced proficiency in English grammar, some	4

		17-15	grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	
		Adequate to Fair 14-12	Ideas are getting through to the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	3
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school-level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to educated readers.	2
		Not High school-level work 5-1	Complete disregard for English writing conventions; paper is illegible; obvious capitals are missing, no margins, severe spelling problems	1

5	**Vocabulary** Vocabulary style and quality of expression	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school-level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
Vocabulary = 20
Grammar / Syntax = 25
Mechanics = 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

Approved by
The Principal of
SMP Negeri 1 Bulukerto

Suwandi, S.Pd
NIP.19620626 198403 1 008

Bulukerto, 26 May 2012
English teacher
Class VIII B

Teguh Kiyatno, S.Pd.
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PEMERINTAH KABUPATEN WONOGIRI
DINAS PENDIDIKAN NASIONAL
SMP NEGERI 1 BULUKERTO
Alamat : Guli, Bulukerto, Wonogiri, Telp. 0273330766

APPENDIX 1
RESEARCH INSTRUMENT

1.2

THE EFFECTIVENESS OF QUANTUM METHOD
TO TEACH WRITING VIEWED FROM STUDENTS' CREATIVITY
An Experimental Research to the Eighth Grade Students of SMP N 1 Bulukerto
in the 2011/2012 Academic Year

Lesson Plan of
Control Class

ENGLISH DEPARTMENT
GRADUATE SCHOOL
SEBELAS MARET UNIVERSITY
2013

Appendix 1.2.1

LESSON PLAN 1
(Control Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Functional written text (Notice, Caution, and Warning)
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Functional written text

Functional text is used for everyday information. It is called functional because it helps you function in your day- to- day life.

Notice , Caution , and Warning

Notice is a board or a sign displaying information. It is used to emphasize points or remind readers of something, or to indicate minor problems in the outcome of what they are doing. Notice is used to address practices not related to personal injury.

Example	**WAITING ROOM**	It means this is a place for you to wait

Caution is a warning or a piece of advice about possible danger or risk. It is used to warn readers about possible damage to equipment or data or about potential problems in the outcome of what they are doing. Caution indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

Example		It means we have to be careful because of the wet floor.

Warning is a statement, an event etc telling somebody so that something bad or unpleasant may happen in the future so that they can try to avoid it. It is used to warn readers about the possibility of minor injury to themselves or others. Warning indicates a hazardous situation which, if not avoided, could result in death or serious injury.

Example 

It means the water is very hot so we must keep away the children

VI. Teaching technique:

Direct Instruction Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Teacher's Activities	Students' Activities
1	Orientation	Teacher explains the new text model which will be composed by the students.	Students respond their teacher's explanation based on their prior knowledge.
2	Presentation	Teacher demonstrates how to compose the text model .	Students pay attentions their teacher's demonstration.
3	Structured Practice	Teacher asks students to write their own text in good structure.	Students write their own text in a good structure.
4	Guided Practice	Teacher monitors and provides necessary guidance for student' compositions.	Students practice on their own with their teacher's necessary guidance.
5	Independent Practice	Teacher gives students independent practice of their composition to enhance self-understanding.	Students practice on their own without assistance and feedback.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :

Write down the functional written text of notice, caution, or warning which you often find in the public area with good grammar, vocabulary, mechanics, content, and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

No	Indicators	Criteria	Description	Rating
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the generalizations may not be fully supported by evidence given; problems or organization interfere.	3
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	2
		Not High school- level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1

2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school- level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	5
		Good to Adequate 17-15	Advanced proficiency in English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	4
		Adequate to Fair 14-12	Ideas are getting through to the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	3
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school- level	Severe grammar problems interfere greatly with the	1

		work 5-1	message; reader can't understand what the writer was trying to say; unintelligible sentence structure	
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to educated readers.	2
		Not High school- level work 5-1	Complete disregard for English writing conventions; paper is illegible; obvious capitals are missing, no margins, severe spelling problems	1
5	**Vocabulary** Vocabulary style and quality of expression	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school- level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content	= 30
Organization	= 20
Vocabulary	= 20
Grammar / Syntax	= 25
Mechanics	= 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

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Appendix 1.2.2

LESSON PLAN 2
(Control Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Functional written text (Greeting Card)
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Functional written text

A **greeting card** is an illustrated card used to convey an expression of friendship or other feeling. Greeting cards are usually given on special occasions, such as birthdays, Lebaran day or other holidays, they are also sent to express thanks or congratulation. Greeting cards are usually packaged with an envelope. They are made with various styles.

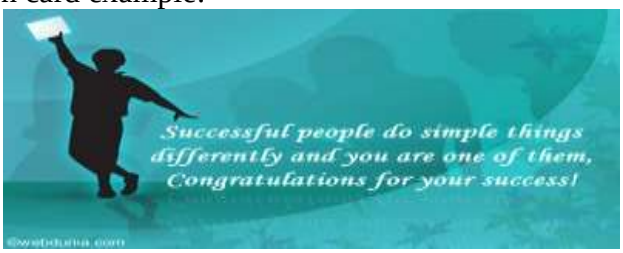
Special Occasion Greeting Card example:

New Year Card

Happy Birthday card example:

Birthday card

congratulation card example:



congratulation card

Thanks greeting card example

Thanks Card

VI. Teaching technique:

Direct Instruction Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Teacher's Activities	Students' Activities
1	Orientation	Teacher explains the new text model which will be composed by the students.	Students respond their teacher's explanation based on their prior knowledge.
2	Presentation	Teacher demonstrates how to compose the text model .	Students pay attentions their teacher's demonstration.
3	Structured Practice	Teacher asks students to write their own text in good structure.	Students write their own text in a good structure.
4	Guided Practice	Teacher monitors and provides necessary guidance for student' compositions.	Students practice on their own with their teacher's necessary guidance.
5	Independent Practice	Teacher gives students independent practice of their composition to enhance self-understanding.	Students practice on their own without assistance and feedback.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :

Write down the functional written text of Greeting Card with good grammar, vocabulary, mechanics, content, and organization

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization, introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the generalizations may not be fully supported by evidence given; problems or organization interfere.	3
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with	2

			ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	
		Not High school- level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school- level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	5
		Good to Adequate 17-15	Advanced proficiency in English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	4
		Adequate to	Ideas are getting through to	3

		Fair 14-12	the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school- level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to educated readers.	2
		Not High school- level work 5-1	Complete disregard for English writing conventions; paper is illegible; obvious capitals are missing, no margins, severe spelling problems	1
5	**Vocabulary** Vocabulary style and quality of	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to	Attempts variety; good	4

	expression	Adequate 17-15	vocabulary; not wordy; register is ok; style is fairly concise	
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school- level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
Vocabulary = 20
Grammar / Syntax = 25
Mechanics = 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

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The Principal of
SMP Negeri 1 Bulukerto

Suwandi, S.Pd
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Bulukerto,10 May 2012
English teacher
Class VIII C

Teguh Kiyatno, S.Pd.
NIP.19650204 198601 1 002

Appendix 1.2.3

LESSON PLAN 3
(Control Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Functional written text (Invitation)
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

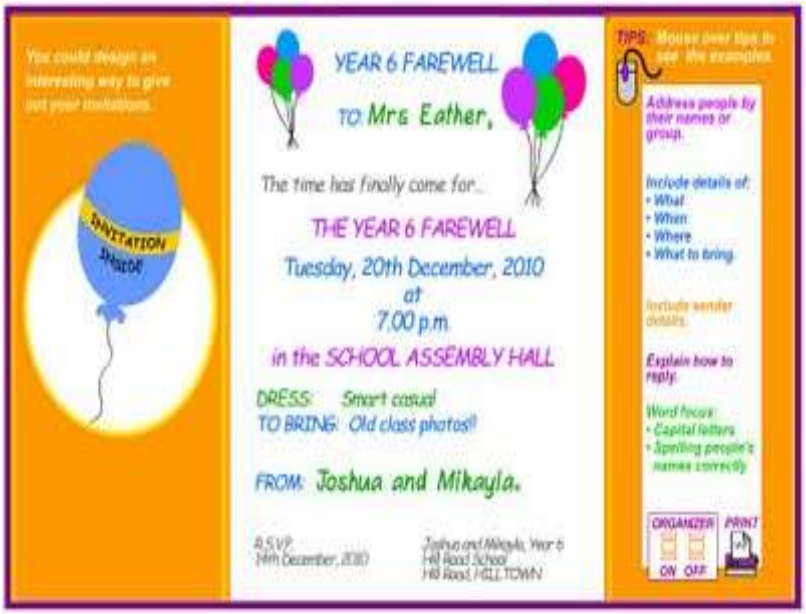
At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Functional written text Invitation

An invitation is a type of letter that functions to invite a guest to a party, an event or a celebration. It serves two purposes: to invite the individual to the event and to ensure that the person receiving the letter is going to attend.



Beyond how many people are attending, the R.S.V.P. will determine who is attending as well as how to deal with seating arrangements, food selection, and service.R.S.V.P comes from the French phrase "Répondez, s'il vous plaêt" which in English means, "Please Respond." This is intended for parties and events where you must know exactly who is coming so arrangements can be made for seating, food, and other accommodations.

VI. Teaching technique:

Direct Instruction Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Teacher's Activities	Students' Activities
1	Orientation	Teacher explains the new text model which will be composed by the students.	Students respond their teacher's explanation based on their prior knowledge.
2	Presentation	Teacher demonstrates how to compose the text model .	Students pay attentions their teacher's demonstration.
3	Structured Practice	Teacher asks students to write their own text in good structure.	Students write their own text in a good structure.
4	Guided Practice	Teacher monitors and provides necessary guidance for student' compositions.	Students practice on their own with their teacher's necessary guidance.
5	Independent Practice	Teacher gives students independent practice of their composition to enhance self-understanding.	Students practice on their own without assistance and feedback.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :

Write down the functional written text of invitation with good grammar, vocabulary, mechanics, content, and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the generalizations may not be fully supported by evidence given; problems or organization interfere.	3
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with	2

			ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	
		Not High school- level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school- level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	5
		Good to Adequate 17-15	Advanced proficiency in English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	4
		Adequate to	Ideas are getting through to	3

		Fair 14-12	the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school- level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to educated readers.	2
		Not High school- level work 5-1	Complete disregard for English writing conventions; paper is illegible; obvious capitals are missing, no margins, severe spelling problems	1
5	**Vocabulary** Vocabulary	Excellent to Good	Precise vocabulary usage; use of parallel structures; concise ;	5

	style and quality of expression	20-18	register is good	
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school- level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
Vocabulary = 20
Grammar / Syntax = 25
Mechanics = 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

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The Principal of
SMP Negeri 1 Bulukerto

Suwandi, S.Pd
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Bulukerto, 12 May 2012
English teacher
Class VIII C

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Appendix 1.2.4

LESSON PLAN 4
(Control Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Functional written text (Announcement)
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Functional text Announcement

Announcement is a public statement containing information about an event that has happened or is going to happen. An announcement in a public place, such as a newspaper or the window of a shop, is a short piece of writing telling people about something or asking for something.

Example 1:

Attention, please:

To all passengers of Argolawu train, please get on board now. The train is going to leave in 5 minutes. Thank you.

Example 2:

VI. Teaching technique:

Direct Instruction Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Teacher's Activities	Students' Activities
1	Orientation	Teacher explains the new text model which will be composed by the students.	Students respond their teacher's explanation based on their prior knowledge.
2	Presentation	Teacher demonstrates how to compose the text model .	Students pay attentions their teacher's demonstration.
3	Structured Practice	Teacher asks students to write their own text in good structure.	Students write their own text in a good structure.
4	Guided Practice	Teacher monitors and provides necessary guidance for student' compositions.	Students practice on their own with their teacher's necessary guidance.
5	Independent Practice	Teacher gives students independent practice of their composition to enhance self-understanding.	Students practice on their own without assistance and feedback.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :

Write down the functional written text of announcement with good grammar, vocabulary, mechanics, content,and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the generalizations may not be fully supported by evidence given; problems or organization interfere.	3
		Unaccept able 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion	2

			is weak or illogical; inadequate effort at organization	
		Not High school-level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school-level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	5
		Good to Adequate 17-15	Advanced proficiency in English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	4
		Adequate to Fair 14-12	Ideas are getting through to the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	3
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is	2

			clearly needed; difficult to read sentences	
		Not High school-level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to educated readers.	2
		Not High school-level work 5-1	Complete disregard for English writing conventions; paper is illegible; obvious capitals are missing, no margins, severe spelling problems	1
5	**Vocabulary** Vocabulary style and quality of expression	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school-level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content	= 30
Organization	= 20
Vocabulary	= 20
Grammar / Syntax	= 25
Mechanics	= 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

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Appendix 1.2.5

LESSON PLAN 5
(Control Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Functional written text (Advertisement)
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Functional written text Advertisement

Advertising is a form of communication intended to persuade an audience (viewers, readers or listeners) to take some action. It is a notice or display that is used to persuade people to buy some products. We can find many advertisements around us, such as in TV, internet, radio, or along the road. There are some products which are offered in the advertisement; including goods, services and job vacation.

Examples:

Phone Advertisement

Job Vacancy Advertisement

Service Advertisement

VI. Teaching technique:

Direct Instruction Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Teacher's Activities	Students' Activities
1	Orientation	Teacher explains the new text model which will be composed by the students.	Students respond their teacher's explanation based on their prior knowledge.
2	Presentation	Teacher demonstrates how to compose the text model .	Students pay attentions their teacher's demonstration.
3	Structured Practice	Teacher asks students to write their own text in good structure.	Students write their own text in a good structure.
4	Guided Practice	Teacher monitors and provides necessary guidance for student' compositions.	Students practice on their own with their teacher's necessary guidance.
5	Independent Practice	Teacher gives students independent practice of their composition to enhance self-understanding.	Students practice on their own without assistance and feedback.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :

Write down the functional written text of advertisement with good grammar, vocabulary, mechanics, content, and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the generalizations may not be fully supported by evidence given; problems or organization interfere.	3

		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	2
		Not High school- level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school- level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	5
		Good to	Advanced proficiency in	4

		Adequate 17-15	English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	
		Adequate to Fair 14-12	Ideas are getting through to the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	3
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school- level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to educated readers.	2
		Not High school- level	Complete disregard for English writing conventions;	1

		work 5-1	paper is illegible; obvious capitals are missing, no margins, severe spelling problems	
5	**Vocabulary** Vocabulary style and quality of expression	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school- level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
Vocabulary = 20
Grammar / Syntax = 25
Mechanics = 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

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The Principal of
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Suwandi, S.Pd
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Bulukerto, 17 May 2012
English teacher
Class VIII C

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Appendix 1.2.6

LESSON PLAN 6
(Control Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Functional written text (Label, Manual, Schedule)
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Functional written text (Label, Manual, Schedule)

The term "**product label**" is a general term used to refer to printed information affixed to a product (typically retail products) communicated from the manufacturer to consumers or other users.

Example:

SUPLEMENTS FACTS		
Serving size	: 1 tablet	
Serving per container	: 30	
Vitamin C (an non acidic calcium ascortabate)	Amount of serving	% Daily value
Mg 416.67	250 mg	416,67
Calcium (as calcium ascorbate) mg 7.14	50 mg	7,14
Citrus bioflavonoid*	50 mg	
Rutin*	25 mg	
Hesperidin*	25 mg	
Rose hips*	125 mg	
Acerola*	5 mg	
*Daily value not established suggested use: 1 tablet after meal.		
This product contains no artificial colors, flavors, preservatives, milk, egg, sugar, chemical solvent, starch or gluten.		

Manuals include a set of directions and best practices that concern a specific device, such as a car, a household appliance or a software program. Manuals include a set of directions and best practices that concern a specific device, such as a car, a household appliance or a software program.

Schedules describe events occurring across a certain span of time. Example of schedules include calendars, which describe time as a series of subdivisions labeled according to cultural convention, and itineraries, which describe specific series of meetings labeled by time, and generic schedules that describe a continuous succession of events, including television listings and bus route guides. Schedules describe events occurring across a certain span of time. Example of schedules include calendars, which describe time as a series of subdivisions labeled according to cultural convention, and itineraries, which describe specific series of meetings labeled by time, and generic schedules that describe a continuous succession of events, including television listings and bus route guides.

VI. Teaching technique:

Direct Instruction Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Teacher's Activities	Students' Activities
1	Orientation	Teacher explains the new text model which will be composed by the students.	Students respond their teacher's explanation based on their prior knowledge.
2	Presentation	Teacher demonstrates how to compose the text model .	Students pay attentions their teacher's demonstration.
3	Structured Practice	Teacher asks students to write their own text in good structure.	Students write their own text in a good structure.
4	Guided Practice	Teacher monitors and provides necessary guidance for student' compositions.	Students practice on their own with their teacher's necessary guidance.
5	Independent Practice	Teacher gives students independent practice of their composition to enhance self-understanding.	Students practice on their own without assistance and feedback.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :

Write down the functional written text of Label, Manual,or Schedule with good grammar, vocabulary, mechanics, content, and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the generalizations may not be	3

			fully supported by evidence given; problems or organization interfere.	
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	2
		Not High school- level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school- level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	5

		Good to Adequate 17-15	Advanced proficiency in English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	4
		Adequate to Fair 14-12	Ideas are getting through to the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	3
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school- level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to educated readers.	2
		Not High school- level	Complete disregard for English writing conventions;	1

		work 5-1	paper is illegible; obvious capitals are missing, no margins, severe spelling problems	
5	**Vocabulary** Vocabulary style and quality of expression	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school- level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
Vocabulary = 20
Grammar / Syntax = 25
Mechanics = 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

Approved by
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Bulukerto, 19 May 2012
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Appendix 1.2.7

LESSON PLAN 7
(Control Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Functional written text (Memo/ Short Message, Letter, E mail)
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Functional written text (Memo/ Short Message, Letter, E mail)

Memo/short message is a short written request, note, piece of information, etc. That is given from one person to another indirectly. Memo/short message is a short written request, note, piece of information, etc. That is given from one person to another indirectly.

Example :

To : Sekar

From : Angger
Subject : Get the CD

I am in a hurry to catch the bus. It's quite late. I'm still burning CDs in the teacher's computer. Please, you wait the process and keep all the burn CDs with you. There are 5 CDs more to burn. Don't forget shutting down the computer and disconnect the electric lines.
Thanks a lot.

Examples of Letter

Kupang, May 7, 2008

Dear Paula,
Hello Paula, how are you? It's been a month since I last heard from you. Well, I just wanted to tell you that I was in a hospital last week.
According to the doctor; I was infected by dengue fever. At fi rst, I felt my body became weak then I fainted when I was studying in the classroom. Then, I was taken to the hospital because of the high fever.
At the hospital, I was brought into the emergency unit. The doctor immediately gave some treatment. Finally, I had to stay there for one week. Everyday the doctor kept me on a drip.
At the seventh day, my condition was getting better. After the fi nal check, the doctor gave me permission to go home. Now, I'm okay and because of my illness, I am now more careful about keeping in my house clean especially my room, I don't want to get the same illness again.
OK, I think that's all from me, write to me soon ok?

Regards
Nadira

VI. Teaching technique:
Direct Instruction Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Teacher's Activities	Students' Activities
1	Orientation	Teacher explains the new text model which will be composed by the students.	Students respond their teacher's explanation based on their prior knowledge.
2	Presentation	Teacher demonstrates how to compose the text model .	Students pay attentions their teacher's demonstration.
3	Structured Practice	Teacher asks students to write their own text in good structure.	Students write their own text in a good structure.
4	Guided Practice	Teacher monitors and provides necessary guidance for student' compositions.	Students practice on their own with their teacher's necessary guidance.
5	Independent Practice	Teacher gives students independent practice of their composition to enhance self-understanding.	Students practice on their own without assistance and feedback.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :

Write down the functional written text of Memo/ Short Message, Letter, or E mail with good grammar, vocabulary, mechanics, content, and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the generalizations may not be fully supported by evidence	3

			given; problems or organization interfere.	
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	2
		Not High school- level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school- level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	5
		Good to	Advanced proficiency in	4

		Adequate 17-15	English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	
		Adequate to Fair 14-12	Ideas are getting through to the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	3
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school- level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to educated readers.	2
		Not High school- level work 5-1	Complete disregard for English writing conventions; paper is illegible; obvious	1

			capitals are missing, no margins, severe spelling problems	
5	**Vocabulary** Vocabulary style and quality of expression	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school- level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
Vocabulary = 20
Grammar / Syntax = 25
Mechanics = 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

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Suwandi, S.Pd
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Bulukerto, 22 May 2012
English teacher
Class VIII C

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Appendix 1.2.8

LESSON PLAN 8
(Control Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Recount
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

RECOUNT

Social Function

To retell events for the purpose of informing or entertaining

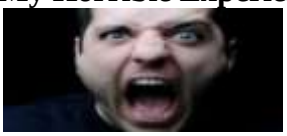
Generic Structure

a) Orientation: provides the setting and introduces participants
b) Events: tell what happened, in what sequence.
c) Re-orientation: optional-closure of events

Significant Lexicogrammatical Features

a) Focus on specific Participants
b) Use of material processes
c) Circumstances of time and place
d) Use of past tense
e) Focus on temporal sequence.

My Horrible Experience



Let me remind you my experience during an earthquake last week. When the earthquake happened, I was on my car. I was driving home from my vocation to Bali. Suddenly my car lunched to one side, to the left. I thought I got flat tire. I did not know that it was an earthquake. I knew it was an earthquake when I saw some telephone and electricity poles falling down to the ground, like matchsticks.

Then I saw a lot of rocks tumbling across the road. I was trapped by the rock. Even I could not move my car at all. There were rocks everywhere. There was nothing I could do but left the car and walked along way to my house, in the town.

When I reached my town, I was so surprised that there was almost nothing left. The earthquake made a lot of damage to my town. Although nothing was left, I thanked God that nobody was seriously injured.

Source : http://www.belajarbahasainggris.us/2012/01/contoh-teks-recount-my-horrible. html

VI. Teaching technique:

Direct Instruction Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Teacher's Activities	Students' Activities
1	Orientation	Teacher explains the new text model which will be composed by the students.	Students respond their teacher's explanation based on their prior knowledge.
2	Presentation	Teacher demonstrates how to compose the text model .	Students pay attentions their teacher's demonstration.
3	Structured Practice	Teacher asks students to write their own text in good structure.	Students write their own text in a good structure.
4	Guided Practice	Teacher monitors and provides necessary guidance for student' compositions.	Students practice on their own with their teacher's necessary guidance.
5	Independent Practice	Teacher gives students independent practice of their composition to enhance self-understanding.	Students practice on their own without assistance and feedback.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :
Write down your personal experience in the recount text with good grammar, vocabulary, mechanics, content, and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the generalizations may not be fully supported by evidence given; problems or organization interfere.	3
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	2
		Not High	Absence of introduction; or	1

		school-level work 5-1	conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school-level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	5
		Good to Adequate 17-15	Advanced proficiency in English grammar, some grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	4
		Adequate to Fair 14-12	Ideas are getting through to the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	3
		Unacceptable	Numerous serious grammar problems interfere with	2

		11-6	communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	
		Not High school-level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to educated readers.	2
		Not High school-level work 5-1	Complete disregard for English writing conventions; paper is illegible; obvious capitals are missing, no margins, severe spelling problems	1
5	**Vocabulary** Vocabulary style and quality of expression	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable	Poor expression of ideas; problems in vocabulary; lacks	2

		11-6	of variety of structure	
		Not High school-level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
Vocabulary = 20
Grammar / Syntax = 25
Mechanics = 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

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Appendix 1.2.9

LESSON PLAN 9
(Control Class)

School	**:**	SMP Negeri 1 Bulukerto
Subject	**:**	English
Grade/Semester	**:**	VIII /2
Text type	**:**	Narrative
Language skill	**:**	Writing
Time allotment	**:**	2 x 45 (1 meeting)

I. Standard of competence :

12. Toexpress the meaning of functional written text and simple short essay in the text types of recount dan narrative to interact with the surrounding environment.

II. Basic Competence :

12.1. to express the meaning in a short written functional text using a variety of written language accurately, fluently and appropriately to interact with the surrounding environment in the text types of recount and narrative.

III. Indicator :

The students are able to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

IV. Instructional objectives :

At the end of the session, the students are expected to:

1. use accurate ***grammar*** in the composition correctly.
2. use appropriate ***vocabulary*** in the composition accuratetly.
3. use ***mechanics*** (including spelling, capitalization, punctuation, indentation, etc) in the composition accuratetly
4. accomplish the ***content*** of communicative function in the composition fluently.
5. arrange the ***organization*** of ideas in the composition logically.

V. Instructional material:

Narrative

Snow White

Orientation

Once upon a time there lived a little girl named Snow White. She lived with her Aunt and Uncle because her parents were dead.

Major Complication

One day she heard her Uncle and Aunt talking about leaving Snow White in the castle because they both wanted to go to America and they didn't have enough money to take Snow White.

Resolution

Snow White did not want her Uncle and Aunt to do this so she decided it would be best if she ran away. The next morning she ran away from home when her Aunt and Uncle were having breakfast. she ran away into the woods.

Complication

She was very tired and hungry.

Resolution

Then she saw this little cottage. she knocked but no one answered so she went inside and fell asleep.

Complication

Meanwhile, the seven dwarfs were coming home from work. They went inside. There they found Snow White sleeping. Then Snow White woke up. She saw the dwarfs. The dwarfs said, what is your name? Snow White said, 'My name is Snow White'.

Major Resolution

Doc said, 'If you wish, you may live here with us". Snow White said, 'Oh could(I) ?.Thankyou'. Then Snow White told the dwarfs the whole story and Snow White and the 7 dwarfs lived happily ever after.

GENRE	SOCIAL FUNCTION	GENERIC STRUCTURE	SIGNIFICANT LEXICOGRAMMATICAL FEATURES
Narrative	To amuse, entertain and to deal with actual or vicarious experience in different ways; Narratives deal with problematic events which lead to a crisis or turning point of some kind, which in turn finds a resolution.	**1.Orientation :** sets the scene and introduces the participants. • ***Evaluation:*** *a stepping back to evaluate the plight.* **2.Complication:** a crisis arises. **3.Resolution**:the crisis is resolved , for better or for worse. •***Re-orientation****: optional*	• Focus on specific and usually individualized Participants. • Use of Material Processes (and in this text, Behavioural and Verbal Processes. • Use of Relational Processes and Mental Processes. • Use of temporal conjunctions and temporal Circumstances. • Use of past tense.

VI. Teaching technique:
Direct Instruction Method

VII. Learning Steps:

1) Opening: 10`

- Greeting.
- Praying
- Checking the students' attendance.
- Stating today's lesson topic
- Explaining the objectives of the teaching and learning process.
- Stating the advantage of what will be learnt.

2) Main activity: 70`

No	Phase	Teacher's Activities	Students' Activities
1	Orientation	Teacher explains the new text model which will be composed by the students.	Students respond their teacher's explanation based on their prior knowledge.
2	Presentation	Teacher demonstrates how to compose the text model .	Students pay attentions their teacher's demonstration.
3	Structured Practice	Teacher asks students to write their own text in good structure.	Students write their own text in a good structure.
4	Guided Practice	Teacher monitors and provides necessary guidance for student' compositions.	Students practice on their own with their teacher's necessary guidance.
5	Independent Practice	Teacher gives students independent practice of their composition to enhance self-understanding.	Students practice on their own without assistance and feedback.

3) Closing activity: 10`

- Asking the students' difficulties
- Summarizing what students have learnt as a reinforcement.
- Doing reflection the students:
- Preparing the next lesson.
- Saying good bye

VIII. Learning Media:

1. laptop
2. LCD projector, and.
3. screen

IX. Learning Sources :

1. BSE Bahasa Inggris Klas VIII.
2. LKS Bahasa Inggris Klas VIII
3. Internet sources :

X. Evaluation:

1 Technique : Written
2 Form : Essay
3 Test :
Write down the text of Narrative with good grammar, vocabulary, mechanics, content, and organization.

XI. Scoring Rubrics of Writing :

5 (five) indicators (Organization, Content, Grammar/Syntax, Mechanics, and Vocabulary) are measured based on the analytical scale for rating composition tasks (Brown and Bailey,1984: 39 – 41 as cited in Brown, 2004: 244 – 245).

	Indicators	**Criteria**	**Description**	**Rating**
1	**Organization** Organization , introduction, body, and conclusion	Excellent to Good 20-18	Appropriate title, affective introductory paragraph, topic is stated, leads to body; transitional expression used; arrangement of material shows plan (could be outlined by reader); supporting evidence is given for generalizations; conclusion is logical and complete	5
		Good to Adequate 17-15	Adequate title, introduction, and conclusion; body of essay is acceptable, but some evidences may be lacking, some ideas aren't fully developed; sequence is logical but transitional expression may be absent or misuse	4
		Adequate to Fair 14-12	Mediocre or scant of introduction or conclusion; problems with the order of ideas in body; the generalizations may not be fully supported by evidence given; problems or	3

			organization interfere.	
		Unacceptable 11-6	Shaky or minimally recognizable introduction; organization can barely be seen, severe problems with ordering of ideas, lack of supporting evidence; conclusion is weak or illogical; inadequate effort at organization	2
		Not High school- level work 5-1	Absence of introduction; or conclusion; no apparent organization of body; severe or lack of supporting evidence; writer has not made any effort to organize the composition (could not be outlined by reader)	1
2	**Content:** logical development of ideas	Excellent to Good 20-18	Essay addresses the assigned topic; the ideas are concrete and thoroughly developed; no extraneous material essay reflects thought	5
		Good to Adequate 17-15	Essay addresses the issues but misses some points; ideas could be more fully developed; some extraneous material are present.	4
		Adequate to Fair 14-12	Development of ideas is not complete or essay is some what off the topic; paragraphs aren't divided extract right.	3
		Unacceptable 11-6	Ideas are incomplete; essay does not reflect careful thinking or was hurriedly; written; inadequate effort in area of content	2
		Not High school- level work 5-1	Essay is completely inadequate and does not reflect college-level work; no apparent effort to consider the topic carefully	1
3	**Grammar** Syntax: Grammar	Excellent to Good 20-18	Native-like fluency in English grammar; correct use of relative clauses, preposition, modals, articles, verb forms and tense sequencing no fragments of run-on sentences	5
		Good to Adequate	Advanced proficiency in English grammar, some	4

		17-15	grammar problems don't influence communication, is aware of them, no fragments or run-on sentences	
		Adequate to Fair 14-12	Ideas are getting through to the reader grammar problems are apparent and have negative effect on communication; run-on sentences or fragments present	3
		Unacceptable 11-6	Numerous serious grammar problems interfere with communication of writer's ideas; grammar review of some areas is clearly needed; difficult to read sentences	2
		Not High school- level work 5-1	Severe grammar problems interfere greatly with the message; reader can't understand what the writer was trying to say; unintelligible sentence structure	1
4	**Mechanics:** Mechanics: Punctuation and spelling	Excellent to Good 20-18	Correct use of English writing conventions; left and right margins, all needed Capitals, paragraph indented punctuation and spelling; very neat	5
		Good to Adequate 17-15	Some problems with writing conventions or punctuation; occasional spelling errors; left margin correct; paper is neat and legible	4
		Adequate to Fair 14-12	Uses general writing conventions but has errors; spelling problems distract reader; punctuations errors interfere with ideas	3
		Unacceptable 11-6	Serious problems with format of paper, parts of essay are not legible; errors in sentence punctuation and final punctuations unacceptable to educated readers.	2
		Not High school- level work 5-1	Complete disregard for English writing conventions; paper is illegible; obvious capitals are missing, no	1

			margins, severe spelling problems	
5	**Vocabulary** Vocabulary style and quality of expression	Excellent to Good 20-18	Precise vocabulary usage; use of parallel structures; concise ; register is good	5
		Good to Adequate 17-15	Attempts variety; good vocabulary; not wordy; register is ok; style is fairly concise	4
		Adequate to Fair 14-12	Some vocabulary are misused; lacks of awareness of register, may be too wordy	3
		Unacceptable 11-6	Poor expression of ideas; problems in vocabulary; lacks of variety of structure	2
		Not High school- level work 5-1	Inappropriate use of vocabulary; no concept of register or sentence variety	1

The descriptions of the scores are as follows:

Content = 30
Organization = 20
Vocabulary = 20
Grammar / Syntax = 25
Mechanics = 5

100 is the total of maximum scores (Jacobs, et al. 1981 in Brown, 2004: 243 – 246)

Approved by
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PEMERINTAH KABUPATEN WONOGIRI
DINAS PENDIDIKAN NASIONAL
SMP NEGERI 1 BULUKERTO
Alamat : Guli, Bulukerto, Wonogiri, Telp. 0273330766

APPENDIX 1
RESEARCH INSTRUMENT

1.3

THE EFFECTIVENESS OF QUANTUM METHOD
TO TEACH WRITING VIEWED FROM STUDENTS' CREATIVITY
An Experimental Research to the Eighth Grade Students of SMP N 1 Bulukerto
in the 2011/2012 Academic Year

The Initial Creativity Test (Munandar's TKV)

ENGLISH DEPARTMENT
GRADUATE SCHOOL
SEBELAS MARET UNIVERSITY
2013

Appendix 1.3.1 Definition and Indicators of Creativity

Definition of Creativity :

Creativity is the capability owned by creative people (*person*) which can be realized by intrinsic or extrinsic factors (*press*) and manifested in specific stages (*process*) to present novel and valuable result (*product*).

Indicators of Creativity :

1) ***Flexibility***

The respondent is able to adapt, change and reform different configurations of classes, relations, and systems. The CQ score is based on the total number of interpretable, meaningful, and relevant ideas generated in response to the stimulus.

2) ***Fluency***

The respondent is able to make number of interpretable, meaningful, and relevant ideas/answers generated in response to the same given information/ stimulus in a limited time and quantity of meaningful solutions. The CQ score is based on the number of different categories of relevant responses.

3) ***Originality***

The respondent is able to generate a variety of transformations or statistical rarity of the responses in the population to which the individual belongs. The CQ score is based on the statistical rarity of the responses.

4) ***Elaboration***

The respondent is able to bring about improvement through the amount of detail in the responses. The CQ score is based on the amount of detail in the responses.

Appendix 1.3.2 Munandar's Verbal Creativity Test

TES KREATIVITAS VERBAL

Waktu Pelaksanaan = 90 menit
Indikator Penilaian = Fluency, Flexibility, Originality, Elaboration
Minimal Jawaban = 5 tiap sub-item / 20 tiap nomer

1. **Subtes I: Permulaan Kata**
   (Waktu : 2 menit untuk setiap item soal)
   Buatlah sebanyak mungkin kata-kata yang dimulai dengan suku kata berikut. Nama Negara, Nama Kota, atau Nama Gunung boleh dipakai. Tetapi jangan menulis nama orang.

   Contoh : **Sa**
   = sapi, satu, sapa, ….

   a. Ka =
   b. So =
   c. Ti =
   d. Pu =

2. **Subtes II: Menyusun Kata**
   (Waktu: 2 menit untuk setiap item soal)
   Susunlah sebanyak mungkin kata dengan memakai huruf-huruf dari kata berikut. Kata-kata tersebut dapat disusun dengan hanya memakai sebagian dari huruf-huruf kata tersebut atau semua huruf dari kata yang telah diberikan. Setiap huruf yang tersedia hanya boleh dipakai satu kali untuk menyusun satu kata baru. Nama orang tidak boleh dipakai.

   Contoh : **k o t a b a r u**
   = bata, batu, buta, rata, ….

   a. Proklamasi =
   b. Keajaiban =
   c. Perumahan =
   d. Kreativitas =

3. **Subtes III: Membentuk Kalimat Tiga Kata**
   (Waktu: 3 menit untuk setiap item soal)
   Buatlah sebanyak mungkin kalimat yang terdiri atas tiga kata yang huruf pertama tiap katanya diberikan dalam soal. Urutan huruf-huruf boleh diubah. Tiap kalimat hanya boleh memakai satu kata yang telah dipakai pada kalimat-kalimat sebelumnya. Boleh menggunakan nama orang.

   Contoh : **a – l – g**
   = Gita lagi apa, Giman anak lucu

   a. a – m – p =
   b. b – i – r =
   c. s – n – u =
   d. k – d – t =

4. Subtes IV: Sifat-Sifat yang Sama
(Waktu: 2 menit untuk setiap item soal)
Tuliskan sebanyak mungkin benda (benda hidup atau benda mati) yang memiliki kedua sifat berikut.

contoh : **merah dan cair** =darah**,** sirup mawar**,** saus tomat**,** tinta merah

a. bulat dan keras =
b. putih dan dapat dimakan =
c. panjang dan tajam =
d. panas dan berguna =

5. Subtes V: Macam-Macam Penggunaan Tidak Lazim
(Waktu: 2 menit untuk setiap item soal)
Tuliskan sebanyak mungkin benda sehari-hari yang dapat dipakai diluar penggunaan yang lazim (diluar penggunaan yang biasa dan sudah umum dipakai setiap orang). Jangan menulis untuk apa benda itu umumnya atau biasanya digunakan (diperuntukkan).

contoh : pensil = alat penggaris, alat pengaduk minuman, x alat tulis menulis

a. surat kabar =
b. kursi makan =
c. sapu ijuk =
d. batu bata =

6. Subtes VI: Apa Akibatnya
(Waktu: 4 menit untuk setiap item soal)
Tuliskanlah sebanyak mungkin akibat-akibat atau apa yang akan terjadi jika keadaan yang biasanya tidak terdapat atau tidak mungkin terjadi benar-benar berlangsung di sini.

contoh: Apa akibatnya jika orang dapat terbang seperti burung?" = tidak perlu pesawat terbang untuk pergi jauh, tak perlu ada lomba terjun payung.

a. Apa akibatnya jika setiap orang dapat mengetahui pikiran orang lain?
b. Apa akibatnya jika semua orang pandai?
c. Apa akibatnya jika makan satu pil sehari cukup mengenyangkan?
d. Apaakibatnya jika di Indonesia seperti di Eropa, ada musim dingin, dimana salju turun dan air bisa beku?

Appendix 1.3.3 Checking Readability of Creativity Test Instructions

In Indonesian

Indikator Keterbacaan:

Siswa dapat

1. memahami perintah yang digunakan dalam instrument soal.
2. memahami makna kosa kata yang digunakan dalam instrument soal.
3. memahami jumlah waktu yang digunakan dalam instrument soal.
4. memahami jumlah kata yang harus dikerjakan dalam instrument soal.
5. memahami indikator yang akan dinilai dalam instrument soal.

Pertanyaan Kuesioner

a. Apakah perintah soal sudah cukup jelas ?
A. Ya B. Tidak

b. Apakah semua kosa kata pada soal dapat difahami dengan jelas ?
A. Ya B. Tidak

c. Apakah jumlah waktu yang ditetapkan sudah jelas ?
A. Ya B. Tidak

d. Apakah jumlah kata yang harus dikerjakan sudah cukup jelas ?
A. Ya B. Tidak

e. Apakah indikator yang akan dinilai sudah cukup jelas ?
A. Ya B. Tidak

In English

Indicators :

Students can

1. understand the instructions used in the test instrument.
2. understand the words used in the test instrument.
3. understand the length of the timeneeded in the test instrument.
4. understand the number of answers needed in the test instrument.
5. understand the indicators to evaluate the creativity.

Questionaires Items

1. Are the instructions used in the test instrument clear ?
   A. Yes B. No
2. Are the words used in the test instrument clear ?
   A. Yes B. No
3. Are the length of the timeneeded in the test instrument clear ?
   A. Yes B. No
4. Are the number of answers needed in the test instrument clear ?
   A. Yes B. No
5. Are the indicators to evaluate the creativity in the test instrument clear ?
   A. Yes B. No

Scoring Questionaires: Since all the questionnaires items are positive statements, every students' answers "A" is scored 1 and "B" is scored 0. The total score are then multiplied by 20. So, the maximum score is 100.

Grouping Students: By comparing the scores with the mean or median scores of the group, every students can be classified as the high and low level in the research. If the final readability score is higher than the mean or median value in the class the student is categorized as the student having high readability. Meanwhile, if the final readability score is the same as or even lower than the mean or median value in the class the student is categorized as the student having low readability.

In Indonesian

Tabel Keterbacaan Soal Tes Kreativitas Verbal Munandar

No	Indikator Kuesioner	Jawaban Positif (A = Ya)	Jawaban Negatif (B = Tidak)	Jumlah
1	Memahami perintah soal			
2	Memahami makna kosa kata			
3	Memahami jumlah waktu			
4	Memahami jumlah kata			
5	Memahami indikator yang dinilai			
	Jumlah			
	Prosentase			

In English

The Readability Table of The Test Instruction in the Initial CQ Test

No	Indicators	Positive Answers (A = Yes)	Negative Answers (B = No)	Total
1	Understand the instructions used in the test instrument.			
2	Understand the words used in the test instrument.			
3	Understand the length of the timeneeded in the test instrument.			
4	Understand the number of the answers in the test instrument.			
5	Understand the indicators to evaluate in the test instrument.			
	Total			
	Procentage			

Appendix 1.3.4 Expected Students' Answers of Creativity Test

Examples of Expected Responses of Munandar's Verbal Creativity Test

1. Subtes I: Permulaan Kata
   a. Ka =
   kamis,kalian, kamera,kamus,katak, ...
   b. So =
   soto, solusi, sore, sofa, sosis, ...
   c. Ti =
   tiga, tikus, tidak, tikar, tidur, ...
   d. Pu =
   pulau, pulang, pucat, pukul, pusat, ...

2. Subtes II: Menyusun Kata
   a. Proklamasi =
   kolam, lama, aksi, kamar, ...
   b. Keajaiban =
   bijak, baja, jebak, bank, ...
   c. Perumahan =
   harum, peran, murah, hampa, ...
   d. Kreativitas =
   kertas, kita, tarik, retak, ...

3. Subtes III: Membentuk Kalimat Tiga Kata
   a. a– m– p=
   aku mau pulang, adik makan pisang, anda membuat pintu, ...
   b. b – i – r =
   baju itu robek, rumah ini baru, ...
   c. s – n – u =
   saya naik unta, saudara nanti usul, ...
   d. k – d – t =
   kita datang terlambat,kamu telah duduk, ...

4. Subtes IV: Sifat-Sifat yang Sama
   a. bulat dan keras =
   bola, gotri, bam, ...
   b. putih dan dapat dimakan =
   nasi, bubur, roti, ...
   c. panjang dan tajam =
   pisau, pedang, tombak, ...
   d. panas dan berguna =
   api, matahari, setrika, ..

5. Subtes V: Macam-Macam Penggunaan Tidak Lazim
   a. surat kabar =
      untuk bungkus makanan,untuk membuat kapal mainan,…
   b. kursi makan =
      untuk tempat tas, untuk tempat pijakan , **..**
   c. sapu ijuk =
      untuk mengusir binatang, untuk menyogok barang, …
   d. batu bata =
      untuk melempar mangga,untuk mengganjal ban, …

6. Subtes VI: Apa Akibatnya
   a. Apa akibatnya jika setiap orang dapat mengetahui pikiran orang lain?
      = tidak ada orang bohong, orang tidak perlu bicara, …
   b. Apa akibatnya jika semua orang pandai?
      = tidak perlu guru, sekolah akan tutup, ….
   c. Apa akibatnya jika makan satu pil sehari cukup mengenyangkan?
      = tidak ada wisata kuliner, tidak perlu pertanian, …
   d. Apa akibatnya jika di Indonesia seperti di Eropa, ada musim dingin, dimana salju turun dan air bisa beku?
      = jaket tebal akan laris, perlu perapian di rumah, …

Scoring Achievement:

There are 6 numbers with 4 sub items in the test for each numbers in the Munandar's TKV in the research. The score ranges from 1 to 5 for each numbers. Thus, the maximum result is 5 x 6 = 30. Meanwhile,the final score of CQ test is the total score divided by 0,3. So, the highest final score of the students' CQ is 100.

The following table is the scoring rubric for each numbers based on the indicators (fluency, flexibility, originality and elaboration)

No	Minimum Answers	Score	The number of students' answers in each number
1	5 x 4 = 20	5	≥ 20 different and correct answers
2	4 x 4 = 16	4	16 – 19 different and correct answers
3	3 x 4 = 12	3	12 – 15 different and correct answers
4	2 x 4 = 8	2	8 – 11 different and correct answers
5	1 x 4 = 4	1	≤ 4 different and correct answers

Grouping Students :

By comparing the scores with the mean or median values of the group, every students can be classified as the high and low level in the research.

If the final CQ score of student's CQ is higher than the medianvalue in the class the student is categorized as **the student having high CQ**. Meanwhile, if the final CQ score of student's CQ is the same as or even lower than the mean or median value in the class the student is categorized as **the student having low CQ**.

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APPENDIX 1
RESEARCH INSTRUMENT

1.4

THE EFFECTIVENESS OF QUANTUM METHOD
TO TEACH WRITING VIEWED FROM STUDENTS' CREATIVITY
An Experimental Research to the Eighth Grade Students of SMP N 1 Bulukerto in the 2011/2012 Academic Year

The Final WritingTest
(Guided Composition)

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Appendix 1.4.1 Definition and Indicators of Writing Skill

Definition of Writing skill :

Writing skill is a specific ability which helps writers gain independence, comprehensibility, fluency, and creativity (*significant competence*) to express one's self, to provide information for one's reader, to persuade one's reader, and to create a literary work (*writer's purpose*) by procedure of thinking in planning, drafting and revising (*composing process*) into a textual medium as the symbolic representation of language (*final product*).

Indicators of Writing Skill:

1) ***Grammar***
   Grammar is one of the microskill in writing skill. The writer's use of language should be correct in grammatical structures. The constructed indicator for the subskill of grammar in this research is: *the students are able to use accurate grammar in the recount composition correctly.*
2) ***Vocabulary***
   It includes style, vocabulary, and quality of expression. Vocabulary is one of the microskill in writing skill. The writer's use of language should be accurate in vocabulary dictions. The constructed indicator for the subskill of vocabulary in this research is: *the students are able to use appropriate vocabulary in the recount composition accuratetly.*
3) ***Mechanics***
   It includes punctuation, spelling, and mechanics. Mechanics is also one of the esensial microskill in writing skill. The writer's use of language should be accurate in mechanics, punctuation, spelling, capitalization, c1earwriting, margins, and consistent indentation. The constructed indicator for the subskill mechanic in this research is: *the students are able to use mechanics (including spelling, capitalization, punctuation, indentation, etc) in the recount composition accuratetly*.
4) ***Content***
   The macroskill of content is related with the purpose (reason) and audience (readers). The writing task should specify not only why they are writing, but also for whom. There should always be a c1ear purpose or reason for writing texts authentically and logically. The ideas should be relevant and deal with the topic or purpose suggested. It includes logical development of ideas. The constructed indicator for the subskill of content in this research is: *the students are able to accomplish the content of communicative function in the recount composition fluently.*
5) ***Organization***
   In writing composition text, the students generate, explore, select, and express their ideas. The ideas should be organised in a logical and coherent order. It includes introduction, body, and conclusion. The constructed indicator for the subskill of organization in this research is: *the students are able to arrange the organization of ideas in the recount composition logically.*

Appendix 1.4.2 Guided Composition Test

GUIDED COMPOSITION TEST = Essay Forms
(Time allotment = 90` in May 29, 2012)

The same final test is conducted both in the Experimental and Control groups

Write a recount text with good grammar, vocabulary, mechanics, content, and organization. Your text must be at least two paragraphs (Orientation and Event 1). These guided questions may help you to write your text.

1. Who was having a holiday trip?
2. When and where did she/he go to the trip?
3. With whom did he/she go there?
4. Why did he/she choose the place?
5. What time did he/she leave from his/her house?
6. How did he/she go there?
7. What time did he/she arrive there?
8. What did he/she do there?
9. What could he/she enjoy there?
10. What time did he/she go home?
11. How was her/his feeling after having the trip?

Appendix 1.4.3CheckingReadability of Writing TestInstructions

Readability Questionnaires of the Writing Composition Test

Indicators :

Students can

1. understand the instructions used in the test instrument.
2. understand the words used in the test instrument.
3. understand the genre used in the composition.
4. understand the length of the composition.
5. understand the indicators to evaluate the composition.

Questionaires Items

1. Are the instructions used in the test instrument clear ?
   a. Yes b. No
2. Are the words used in the test instrument clear ?
   a. Yes b. No
3. Are the genre used in the composition clear ?
   a. Yes b. No
4. Are the length of the composition clear ?
   a. Yes b. No
5. Are the indicators to evaluate the composition in the test instrument clear ?
   a. Yes b. No

The Readability Table of The Test Instruction

No	Questionairres Indicators	Positive Aswers (a = Yes)	Negative Answers (B = No)	Total
1	Understand the instructions used in the test instrument.			
2	Understand the words used in the test instrument.			
3	Understand the genre used in the composition.			
4	Understand the length of the composition.			
5	Understand the indicators to evaluate the composition.			
	Total			

Scoring Questionaires: Since all the questionnaires items are positive statements, every students' answers "A" is scored 1 and "B" is scored 0. The total score are then multiplied by 20. So, the maximum score is 100.

Grouping Students: By comparing the scores with the mean or median scores of the group, every students can be classified as the high and low level in the research. If the final readability score is higher than the mean or median value in the class the student is categorized as the student having high readability. Meanwhile, if the final readability score is the same as or even lower than the mean or median value in the class the student is categorized as the student having low readability.

Appendix 1.4.4 Expected Student's Answers of Writing Test

FINAL PRODUCT OF ENGLISH TEXT
(Minimal Students' Compositions)

Ali was having a holiday trip. He went to Pasir Putih last month. He went there with his friends. He chose the place because the place was so beautiful.

He left home at 7 a.m. He went there by car. He arrived there at 10 a.m. He played in the beach. He could enjoy the beautiful scenery there.

He went home at 4 p.m. He felt tired but happy after having the trip.

Scoring Achievement :

In this research five subskills are used as the indicators in teaching and testing writing skills: content, organization, grammar, vocabulary,and mechanics. The scoring rubrics ranges analytically from 5 to 1 for ***excellent to good*** (5), ***good to adequate*** (4), ***adequate to fair*** (3), ***unacceptable*** (2), and ***not high school-level work*** (1) of the students' composition works based on every criteria stated above (Brown and Bailey, 1984: 39 – 41 as cited in Brown, 2004: 243 – 246).As the curricular goals and students' needs vary, the analytical scoring of essay may be appropriately tailored. Level of proficiency can make a significant difference in emphasis. The analytical scoring profile suggested by Jacobs et al (1981 in Brown, 2004: 243 – 246) is used in this research as follows:

No	Subskills	Emphasis	5	4	3	2	1
1	Content	30	**30**	**24**	**18**	**12**	**6**
2	Organization	20	**20**	**16**	**12**	**8**	**4**
3	Vocabulary	20	**20**	**16**	**12**	**8**	**4**
4	Grammar/Syntax	25	**25**	**20**	**15**	**10**	**5**
5	Mechanics	5	**5**	**4**	**3**	**2**	**1**
	Total	100					

Grouping Students :

By comparing the scores with the mean or median scores of the group, every students can be classified as the high and low level in the research. If the final writing score of a student is higher than the mean or median value in the class, the student is categorized as the student having high writing skill. Meanwhile, if the final writing score of a student is the same as or even lower than the mean or median value in the class, the student is categorized as the student having low writing skill.

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APPENDIX

2

THE EFFECTIVENESS OF QUANTUM METHOD
TO TEACH WRITING VIEWED FROM STUDENTS' CREATIVITY
An Experimental Research to the Eighth Grade Students of SMP N 1 Bulukerto
in the 2011/2012 Academic Year

COLLECTING DATA

2.1 The Result of the Initial Creativity Test

2.2 The Result of the Final Writing Test

2.3 The Eight Groups of Data in the Research

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APPENDIX 2
COLLECTING DATA

2.1

THE EFFECTIVENESS OF QUANTUM METHOD
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in the 2011/2012 Academic Year

The Results of the Initial Creativity Test

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Appendix 2.1.1 The Initial CQ Testin the Try-Out Class

1) The Readability of the Initial CQ in the Try-Out Class

No	Code	Readability					Total	Score	Criteria
		1	2	3	4	5			
1	**8A - 1**	1	0	1	1	0	3	60	Low
2	**8A - 2**	1	0	1	1	0	3	**60**	Low
3	**8A - 3**	1	0	1	1	0	3	60	Low
4	**8A - 4**	1	0	1	1	0	3	60	Low
5	**8A - 5**	1	0	1	1	0	3	60	Low
6	**8A - 6**	1	0	1	1	0	3	60	Low
7	**8A - 7**	1	0	1	1	0	3	60	Low
8	**8A - 8**	1	0	1	1	0	3	60	Low
9	**8A - 9**	1	1	1	1	1	5	100	High
10	**8A - 10**	1	0	1	1	0	3	60	Low
11	**8A - 11**	1	0	1	1	0	3	60	Low
12	**8A - 12**	1	0	1	1	0	3	60	Low
13	**8A - 13**	1	0	1	1	0	3	60	Low
14	**8A - 14**	1	1	1	1	1	5	100	High
15	**8A - 15**	1	1	1	1	0	4	80	High
16	**8A - 16**	1	1	1	1	0	4	80	High
17	**8A - 17**	1	1	1	1	0	4	80	High
18	**8A - 18**	1	1	1	1	0	4	80	High
19	**8A - 19**	1	1	1	1	0	4	80	High
20	**8A - 20**	1	1	1	1	1	5	100	High
21	**8A - 21**	1	1	1	1	1	5	100	High
22	**8A - 22**	1	1	1	1	0	4	80	High
23	**8A - 23**	1	1	1	1	1	5	100	High
24	**8A - 24**	1	1	1	1	1	5	100	High
	Total	24	12	24	24	6	**90**	**High**	**12**
	Procentage	100.00%	50.00%	100.00%	100.00%	25.00%	**75.00 %**	**Low**	**12**

The Summary for the Readability

No	Indicators	Positive Answers (A = Yes)	Negative Answers (B = No)	Total
1	Understand the instructions used in the test instrument.	24	0	24
2	Understand the words used in the test instrument.	12	12	24
3	Understand the length of the timeneeded in the test instrument.	24	0	24
4	Understand the number of the answers in the test instrument.	24	0	24
5	Understand the indicators to evaluate in the test instrument.	6	18	24
	Total	**90**	**30**	120
	Procentage	**75.00 %**	25.00 %	100%

Note :

Based on the table above, it can be concluded that the readability of the initial CQ test responded by the students in the try-out class (VIII A) is **75.00 %.**

2) The Achievement of the Initial CQ Test inthe Try-Out Class

No	Code	Achievement						Total	Score	Criteria	
		1	2	3	4	5	6				
1	**8A - 01**	4	4	3	4	3	2	20	67	Low	
2	**8A - 02**	4	4	3	3	3	2	19	63	Low	
3	**8A - 03**	4	4	3	4	3	2	20	67	Low	
4	**8A - 04**	4	4	3	4	3	2	20	67	Low	
5	**8A - 05**	4	4	3	4	3	2	20	67	Low	
6	**8A - 06**	4	4	3	4	3	2	20	67	Low	
7	**8A - 07**	4	4	3	4	3	2	20	67	Low	
8	**8A - 08**	4	4	3	4	3	2	20	67	Low	
9	**8A - 09**	5	5	4	5	4	3	26	87	High	
10	**8A - 10**	4	4	3	4	3	3	21	70	High	
11	**8A - 11**	4	4	3	4	3	2	20	67	Low	
12	**8A - 12**	4	4	3	4	3	2	20	67	Low	
13	**8A - 13**	4	4	3	4	3	2	20	67	Low	
14	**8A - 14**	5	4	4	5	4	3	25	83	High	
15	**8A - 15**	4	4	3	4	3	3	21	70	High	
16	**8A - 16**	5	4	4	5	4	3	25	83	High	
17	**8A - 17**	5	4	4	5	4	3	25	83	High	
18	**8A - 18**	5	4	4	5	4	3	25	83	High	
19	**8A - 19**	4	4	3	4	3	2	20	67	Low	
20	**8A - 20**	5	5	4	5	4	3	26	87	High	
21	**8A - 21**	5	5	4	5	4	3	26	87	High	
22	**8A - 22**	5	4	4	5	4	3	25	83	High	
23	**8A - 23**	5	5	4	5	4	3	26	87	High	
24	**8A - 24**	5	5	4	5	4	3	26	87	High	
	SUM	106	101	82	105	82	60	536	1790	High	12
	MEAN	4.42	4.21	3.42	4.38	3.42	2.50	22.33	**74.58**	Low	12

Note:

Based on the table above, it can be concluded that the mean of the initial CQ test for the students in the try-out class (VIII A)is **74.58.**

Appendix 2.1.2The Initial CQ Testin the Experimental Class

1) The Readability of the Initial CQ in the Experimental Class

No	Code	Readability					Total	Score	Criteria
		1	2	3	4	5			
1	**8B - 1**	1	1	1	1	1	5	100	High
2	**8B - 2**	1	1	1	1	0	4	80	High
3	**8B - 3**	1	1	1	1	0	4	80	High
4	**8B - 4**	1	1	1	1	1	5	100	High
5	**8B - 5**	1	0	1	1	0	3	60	Low
6	**8B - 6**	1	0	1	1	0	3	60	Low
7	**8B - 7**	1	1	1	1	0	4	80	High
8	**8B - 8**	1	1	1	1	1	5	100	High
9	**8B - 9**	1	1	1	1	1	5	100	High
10	**8B - 10**	1	0	1	1	0	3	60	Low
11	**8B - 11**	1	1	1	1	1	5	100	High
12	**8B - 12**	1	1	1	1	1	5	100	High
13	**8B - 13**	1	0	1	1	0	3	60	Low
14	**8B - 14**	1	0	1	1	0	3	60	Low
15	**8B - 15**	1	1	1	1	1	5	100	High
16	**8B - 16**	1	1	1	1	1	5	100	High
17	**8B - 17**	1	0	1	1	0	3	60	Low
18	**8B - 18**	1	0	1	1	0	3	60	Low
19	**8B - 19**	1	0	1	1	0	3	60	Low
20	**8B - 20**	1	0	1	1	0	3	60	Low
21	**8B - 21**	1	0	1	1	0	3	60	Low
22	**8B - 22**	1	1	1	1	1	5	100	High
23	**8B - 23**	1	0	1	1	0	3	60	Low
24	**8B - 24**	1	0	1	1	0	3	60	Low
	Total	24	12	24	24	9	93	**High**	12
	Procentage	100.00%	50.00%	100.00%	100.00%	37.50%	**77.50%**	**Low**	12

The Summary for the Readability

No	Indicators	Positive Answers (A = Yes)	Negative Answers (B = No)	Total
1	Understand the instructions used in the test instrument.	24	0	24
2	Understand the words used in the test instrument.	12	12	24
3	Understand the length of the timeneeded in the test instrument.	24	0	24
4	Understand the number of the answers in the test instrument.	24	0	24
5	Understand the indicators to evaluate in the test instrument.	9	15	24
	Total	**93**	**27**	120
	Procentage	**77.50 %**	22.50 %	100%

Note :

Based on the table above, it can be concluded that the readability of the initial CQ test responded by the students in the experimental class (VIII B) is **77.50 %.**

2) The Achievement of the Initial CQ Test inthe Experimental Class

No	Code	Achievement						Total	Score	Criteria	
		1	2	3	4	5	6				
1	**8B - 1**	5	5	5	4	4	3	26	**87**	High	
2	**8B - 2**	5	5	4	4	4	3	25	**83**	High	
3	**8B - 3**	5	4	4	4	4	3	24	**80**	High	
4	**8B - 4**	5	5	5	4	4	3	26	**87**	High	
5	**8B - 5**	4	4	4	4	4	3	23	**77**	Low	
6	**8B - 6**	4	4	4	4	3	3	22	**73**	Low	
7	**8B - 7**	5	5	4	4	4	3	25	**83**	High	
8	**8B - 8**	5	5	5	4	4	3	26	**87**	High	
9	**8B - 9**	5	5	5	5	4	3	27	**90**	High	
10	**8B - 10**	4	4	4	3	3	3	21	**70**	Low	
11	**8B - 11**	5	5	4	4	4	3	25	**83**	High	
12	**8B - 12**	5	5	4	4	4	3	25	**83**	High	
13	**8B - 13**	4	4	4	4	4	3	23	**77**	Low	
14	**8B - 14**	4	4	4	4	4	3	23	**77**	Low	
15	**8B - 15**	5	5	4	4	4	3	25	**83**	High	
16	**8B - 16**	5	5	5	4	4	3	26	**87**	High	
17	**8B - 17**	4	4	4	4	4	3	23	**77**	Low	
18	**8B - 18**	4	4	4	4	3	3	22	**73**	Low	
19	**8B - 19**	4	4	4	4	4	3	23	**77**	Low	
20	**8B - 20**	4	4	4	4	3	3	22	**73**	Low	
21	**8B - 21**	4	4	4	4	4	3	23	**77**	Low	
22	**8B - 22**	5	5	5	4	4	3	26	**87**	High	
23	**8B - 23**	4	4	4	4	3	3	22	**73**	Low	
24	**8B - 24**	4	4	4	4	3	3	22	**73**	Low	
	SUM	108	107	102	96	90	72	575	**1917**	**High**	12
	MEAN	4.50	4.46	4.25	4.00	3.75	3.00	23.96	**79.88**	**Low**	12

Note:

Based on the table above, it can be concluded that the mean of the initial CQ test for the students in the experimentalclass (VIII B)is **79.88.**

Appendix 2.1.3The Initial CQ Testin the Control Class

1) The Readability of the Initial CQTest Instructions in the Control Class

No	Code	Readability					Total	Score	Criteria
		1	2	3	4	5			
1	**8C - 1**	1	1	1	1	1	5	100	High
2	**8C - 2**	1	0	1	1	0	3	**60**	Low
3	**8C - 3**	1	1	1	1	0	4	80	High
4	**8C - 4**	1	0	1	1	0	3	60	Low
5	**8C - 5**	1	0	1	1	0	3	60	Low
6	**8C - 6**	1	0	1	1	0	3	60	Low
7	**8C - 7**	1	0	1	1	0	3	60	Low
8	**8C - 8**	1	0	1	1	0	3	60	Low
9	**8C - 9**	1	0	1	1	0	3	60	Low
10	**8C - 10**	1	1	1	1	1	5	100	High
11	**8C - 11**	1	1	1	1	1	5	100	High
12	**8C - 12**	1	1	1	1	0	4	80	High
13	**8C - 13**	1	0	1	1	0	3	60	Low
14	**8C - 14**	1	1	1	1	0	4	80	High
15	**8C - 15**	1	0	1	1	0	3	60	Low
16	**8C - 16**	1	0	1	1	0	3	60	Low
17	**8C - 17**	1	1	1	1	1	5	100	High
18	**8C - 18**	1	1	1	1	1	5	100	High
19	**8C - 19**	1	1	1	1	1	5	100	High
20	**8C - 20**	1	1	1	1	0	4	80	High
21	**8C - 21**	1	1	1	1	1	5	100	High
22	**8C - 22**	1	0	1	1	0	3	60	Low
23	**8C - 23**	1	0	1	1	0	3	60	Low
24	**8C - 24**	1	1	1	1	0	4	80	High
	Total	24	12	24	24	7	91	High	12
	Procentage	100.00%	50.00%	100.00%	100.00%	29.17%	**75.83%**	Low	12

The Summary for the Readability

No	Indicators	Positive Answers (A = Yes)	Negative Answers (B = No)	Total
1	Understand the instructions used in the test instrument.	24	0	24
2	Understand the words used in the test instrument.	12	12	24
3	Understand the length of the timeneeded in the test instrument.	24	0	24
4	Understand the number of the answers in the test instrument.	24	0	24
5	Understand the indicators to evaluate in the test instrument.	7	17	24
	Total	**91**	**29**	120
	Procentage	**75.83 %**	24.17 %	100%

Note :

Based on the table above, it can be concluded that the readability of the initial CQ test responded by the students in the control class (VIII C) is **75.83 %.**

2) The Achievement of the Initial CQ Test inthe Control Class

No	Code	Achievement						Total	Score	Criteria	
		1	2	3	4	5	6				
1	**8C - 1**	5	4	4	4	4	3	24	**80**	High	
2	**8C - 2**	4	4	4	4	3	3	22	**73**	Low	
3	**8C - 3**	5	4	4	4	4	3	24	**80**	High	
4	**8C - 4**	4	4	4	4	3	3	22	**73**	Low	
5	**8C - 5**	4	4	4	4	3	3	22	**73**	Low	
6	**8C - 6**	4	4	4	4	3	3	22	**73**	Low	
7	**8C - 7**	4	4	4	4	3	3	22	**73**	Low	
8	**8C - 8**	4	4	4	4	4	3	23	**77**	Low	
9	**8C - 9**	4	4	4	4	4	3	23	**77**	Low	
10	**8C - 10**	5	5	5	5	4	3	27	**90**	High	
11	**8C - 11**	5	5	4	4	4	3	25	**83**	High	
12	**8C - 12**	5	4	4	4	4	3	24	**80**	High	
13	**8C - 13**	4	4	4	4	4	3	23	**77**	Low	
14	**8C - 14**	5	4	4	4	4	3	24	**80**	High	
15	**8C - 15**	4	4	4	3	3	3	21	**70**	Low	
16	**8C - 16**	4	4	4	3	3	3	21	**70**	Low	
17	**8C - 17**	5	5	5	4	4	3	26	**87**	High	
18	**8C - 18**	5	5	5	4	4	3	26	**87**	High	
19	**8C - 19**	5	5	4	4	4	3	25	**83**	High	
20	**8C - 20**	5	4	4	4	4	3	24	**80**	High	
21	**8C - 21**	5	5	5	4	4	3	26	**87**	High	
22	**8C - 22**	4	4	4	4	3	3	22	**73**	Low	
23	**8C - 23**	4	4	4	4	4	3	23	**77**	Low	
24	**8C - 24**	5	4	4	4	4	3	24	**80**	High	
	SUM	108	102	100	95	88	72	565	**1883**	High	12
	MEAN	4.50	4.25	4.17	3.96	3.67	3.00	23.54	**78.46**	Low	12

Note:

Based on the working table above, it can be concluded that the mean of the initial CQ test for the students in the controlclass (VIII C)is **78.46.**

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APPENDIX 2
COLLECTING DATA

2.2

THE EFFECTIVENESS OF QUANTUM METHOD
TO TEACH WRITING VIEWED FROM STUDENTS' CREATIVITY
An Experimental Research to the Eighth Grade Students of SMP N 1 Bulukerto
in the 2011/2012 Academic Year

The Results of the Final Writing Test

ENGLISH DEPARTMENT
GRADUATE SCHOOL
SEBELAS MARET UNIVERSITY
2013

Appendix 2.2.1 The Final Writing Testin the Try-Out Class

1) The Readability of the Final Writing Test Instructions in the Try-Out Class

No	Code	Readability					Total	Score	Criteria
		1	2	3	4	5			
1	**8A - 01**	1	0	1	1	0	3	60	Low
2	**8A - 02**	1	0	1	1	0	3	60	Low
3	**8A - 03**	1	0	1	1	0	3	60	Low
4	**8A - 04**	1	0	1	1	0	3	60	Low
5	**8A - 05**	1	0	1	1	0	3	60	Low
6	**8A - 06**	1	0	1	1	0	3	60	Low
7	**8A - 07**	1	0	1	1	0	3	60	Low
8	**8A - 08**	1	0	1	1	0	3	60	Low
9	**8A - 09**	1	1	1	1	1	5	100	High
10	**8A - 10**	1	1	1	1	0	4	80	High
11	**8A - 11**	1	0	1	1	0	3	60	Low
12	**8A - 12**	1	0	1	1	0	3	60	Low
13	**8A - 13**	1	0	1	1	0	3	60	Low
14	**8A - 14**	1	1	1	1	1	5	100	High
15	**8A - 15**	1	1	1	1	0	4	80	High
16	**8A - 16**	1	1	1	1	1	5	100	High
17	**8A - 17**	1	1	1	1	1	5	100	High
18	**8A - 18**	1	1	1	1	1	5	100	High
19	**8A - 19**	1	0	1	1	0	3	60	Low
20	**8A - 20**	1	1	1	1	1	5	100	High
21	**8A - 21**	1	1	1	1	0	4	80	High
22	**8A - 22**	1	1	1	1	0	4	80	High
23	**8A - 23**	1	1	1	1	1	5	100	High
24	**8A - 24**	1	1	1	1	1	5	100	High
	Total	24	12	24	24	8	92	**High**	**12**
	Procentage	100.00%	50.00%	100.00%	100.00%	33.33 %	**76.67 %**	**Low**	**12**

The Summary for the Readability of the Final Writing Test Instructions in the Try-Out Class

No	Indicators	Positive Answers (A = Yes)	Negative Answers (B = No)	Total
1	Understanding the instructions used in the test instrument.	24	0	24
2	Understanding the words used in the test instrument.	12	12	24
3	Understanding the length of the timeneeded in the test instrument.	24	0	24
4	Understanding the number of the answers in the test instrument.	24	0	24
5	Understanding the indicators to evaluate in the test instrument.	8	16	24
	Total	92	28	120
	Procentage	**76.67 %**	23.23 %	100%

Note :

Based on the table above, it can be concluded that the readability of the final writingtest responded by the students in the try-out class (VIII A) is **76.67 %.**

2) The Achievement of the Final Writing Test inthe Try-Out Class

No	Code	Achievement					Score	Criteria	
		1	2	3	4	5			
1	**8A - 1**	5	5	2	2	3	**71**	Low	
2	**8A - 2**	5	5	2	2	2	**70**	Low	
3	**8A - 3**	5	5	2	2	3	**71**	Low	
4	**8A - 4**	5	5	2	2	3	**71**	Low	
5	**8A - 5**	5	5	2	2	3	**71**	Low	
6	**8A - 6**	5	5	2	2	3	**71**	Low	
7	**8A - 7**	5	5	2	2	3	**71**	Low	
8	**8A - 8**	5	5	3	2	3	**75**	Low	
9	**8A - 9**	5	5	3	3	4	**81**	High	
10	**8A - 10**	5	5	3	3	2	**79**	High	
11	**8A - 11**	5	5	3	2	4	**76**	Low	
12	**8A - 12**	5	5	2	2	3	**71**	Low	
13	**8A - 13**	5	5	2	2	3	**71**	Low	
14	**8A - 14**	5	5	3	3	3	**80**	High	
15	**8A - 15**	5	5	3	3	2	**79**	High	
16	**8A - 16**	5	5	3	3	3	**80**	High	
17	**8A - 17**	5	5	3	3	3	**80**	High	
18	**8A - 18**	5	5	3	3	3	**80**	High	
19	**8A - 19**	5	5	2	2	3	**71**	Low	
20	**8A - 20**	5	5	3	3	3	**80**	High	
21	**8A - 21**	5	5	3	3	3	**80**	High	
22	**8A - 22**	5	5	3	3	2	**79**	High	
23	**8A - 23**	5	5	3	3	3	**80**	High	
24	**8A - 24**	5	5	3	3	3	**80**	High	
	SUM	120	120	62	60	70	**1818**	High	12
	MEAN	5.00	5.00	2.58	2.50	2.92	**75.75**	Low	12

Note:

Based on the table above, it can be concluded that the mean of the final writing test for the students in the try-out class (VIII A)is **75.75.**

Appendix 2.2.2 The Final Writing Testin the Experimental Class

1) The Readability of the Final Writing Test Instructions in the Experimental Class

Scoring Questionaires:

Since all the questionnaires items are positive statements, every students' answers "A" is scored 1 and "B" is scored 0. The total score are then multiplied by 20. So, the maximum score is 100. By dividing the result score with the number of the respondents, the procentage of the readability for the test instructions can be known.

No	Indicators	Positive Answers (A = Yes)	Negative Answers (B = No)	Total
1	Understand the instructions used in the test instrument.	24	0	24
2	Understand the words used in the test instrument.	12	12	24
3	Understand genre used in the composition	24	0	24
4	Understand the length of the timeneeded in the test instrument.	24	0	24
5	Understand the indicators to evaluate in the test instrument.	10	14	24
	Total	**94**	**26**	120
	Procentage	**78.33 %**	21.67 %	100%

Note : Based on the result table of above, it can be concluded that the readability of the final writingtest instruction responded by the students in the experimental class (VIII B)is**78.33 %**

2) The Achievement of the Final Writing Test in the Experimental Class

Scoring Achievement :

In this research five subskills are used as the indicators in teaching and testing writing skills: content, organization, grammar, vocabulary,and mechanics. The scoring rubrics ranges analytically from 5 to 1 for ***excellent to good*** (5), ***good to adequate*** (4), ***adequate to fair*** (3), ***unacceptable*** (2), and ***not high school- level work*** (1) of the students' composition works based on every criteria stated above (Brown and Bailey, 1984: 39 – 41 as cited in Brown, 2004: 243 – 246).As the curricular goals and students' needs vary, the analytical scoring of essay may be appropriately tailored. Level of proficiency can make a significant difference in emphasis. The analytical scoring profile suggested by Jacobs, et al. (1981 in Brown, 2004: 243 – 246) is used in this research as follows:

No	Subskills	Emphasis	5	4	3	2	1
1	Content	30	**30**	**24**	**18**	**12**	**6**
2	Organization	20	**20**	**16**	**12**	**8**	**4**
3	Vocabulary	20	**20**	**16**	**12**	**8**	**4**
4	Grammar/Syntax	25	**25**	**20**	**15**	**10**	**5**
5	Mechanics	5	**5**	**4**	**3**	**2**	**1**
	Total	100					

The researcher also chose inter rater in scoring the students' worksto decrease subjectivity. Thus, in the recent research all of the students'works were scored by two different scorers(inter rater). The researcher then compared the scores and used the average of their scores as the final score.

Grouping Students :

By comparing the scores with the mean or median scores of the group, every students can be classified as the high and low level in the research. If the final writing score of a student is higher than the mean or median value in the class, the student is categorized as the student having high writing skill. Meanwhile, if the final writing score of a student is the same as or even lower than the mean or median value in the class, the student is categorized as the student having low writing skill.

The Final Scores of the Writing Test and CQ Test for the Students Who Were Taught by Using Quantum Method (A_1) in the Experimental Class (VIII B)

No	Code	Writing Scores					CQ Score		
		Rater 1	Rater 2	Score	Criteria		CQ Score	Criteria	
1	**8B - 1**	87	91	**89**	High		**87**	High	
2	**8B - 2**	88	88	**88**	High		**83**	High	
3	**8B - 3**	85	89	**87**	High		**80**	High	
4	**8B - 4**	88	90	**89**	High		**87**	High	
5	**8B - 5**	81	83	**82**	Low		**77**	Low	
6	**8B - 6**	77	81	**79**	Low		**73**	Low	
7	**8B - 7**	86	88	**87**	High		**83**	High	
8	**8B - 8**	89	91	**90**	High		**87**	High	
9	**8B - 9**	90	90	**90**	High		**90**	High	
10	**8B - 10**	76	80	**78**	Low		**70**	Low	
11	**8B - 11**	86	90	**88**	High		**83**	High	
12	**8B - 12**	87	89	**88**	High		**83**	High	
13	**8B - 13**	83	85	**84**	Low		**77**	Low	
14	**8B - 14**	83	83	**83**	Low		**77**	Low	
15	**8B - 15**	88	88	**88**	High		**83**	High	
16	**8B - 16**	89	89	**89**	High		**87**	High	
17	**8B - 17**	81	85	**83**	Low		**77**	Low	
18	**8B - 18**	77	79	**78**	Low		**73**	Low	
19	**8B - 19**	85	85	**85**	Low		**77**	Low	
20	**8B - 20**	78	78	**78**	Low		**73**	Low	
21	**8B - 21**	79	83	**81**	Low		**77**	Low	
22	**8B - 22**	87	91	**89**	High		**87**	High	
23	**8B - 23**	78	80	**79**	Low		**73**	Low	
24	**8B - 24**	80	80	**80**	Low		**73**	Low	
			SUM	**2032**	High	12	**1917**	High	12
			MEAN	**84.67**	Low	12	**79.88**	Low	12

Note:

Based on the table above, it can be concluded that the mean of the final writing test for the students who were taught by using Quantum method in the experimental class (VIII B) is **84.67.**

Appendix 2.2.3The Final Writing Testin the Control Class

1) The Readability of the Final Writing Test Instructions in the Control Class

Scoring Questionaires:

Since all the questionnaires items are positive statements, every students' answers "A" is scored 1 and "B" is scored 0. The total score are then multiplied by 20. So, the maximum score is 100. By dividing the result score with the number of the respondents, the procentage of the readability for the test instructions can be known.

No	Indicators	Positive Answers (A = Yes)	Negative Answers (B = No)	Total
1	Understand the instructions used in the test instrument.	24	0	24
2	Understand the words used in the test instrument.	12	12	24
3	Understand genre used in the composition	24	0	24
4	Understand the length of the timeneeded in the test instrument.	24	0	24
5	Understand the indicators to evaluate in the test instrument.	9	15	24
	Total	**93**	27	120
	Procentage	**77.50 %**	22.50 %	100%

Note :

Based on the table above, it can be concluded that the readability of the final writing test responded by the students in the control class (VIII C) is **77.50 %.**

2) The Achievement of the Final Writing Test in the Control Class

Scoring Achievement :

In this research five subskills are used as the indicators in teaching and testing writing skills: content, organization, grammar, vocabulary,and mechanics. The scoring rubrics ranges analytically from 5 to 1 for ***excellent to good*** (5), ***good to adequate*** (4), ***adequate to fair*** (3), ***unacceptable*** (2), and ***not high school- level work*** (1) of the students' composition works based on every criteria stated above (Brown and Bailey, 1984: 39 – 41 as cited in Brown, 2004: 243 – 246).As the curricular goals and students' needs vary, the analytical scoring of essay may be appropriately tailored. Level of proficiency can make a significant difference in emphasis. The analytical scoring profile suggested by Jacobs, et al. (1981 in Brown, 2004: 243 – 246) is used in this research as follows:

No	Subskills	Emphasis	5	4	3	2	1
1	Content	30	**30**	**24**	**18**	**12**	**6**
2	Organization	20	**20**	**16**	**12**	**8**	**4**
3	Vocabulary	20	**20**	**16**	**12**	**8**	**4**
4	Grammar/Syntax	25	**25**	**20**	**15**	**10**	**5**
5	Mechanics	5	**5**	**4**	**3**	**2**	**1**
	Total	100					

The researcher also chose inter rater in scoring the students' worksto decrease subjectivity.Thus, in the recent research all of the students'works were scored by two different scorers(inter rater). The researcher then compared the scores and used the average of their scores as the final score.

Grouping Students :

By comparing the scores with the mean or median scores of the group, every students can be classified as the high and low level in the research. If the final writing score of a student is higher than the mean or median value in the class, the student is categorized as the student having high writing skill. Meanwhile, if the final writing score of a student is the same as or even lower than the mean or median value in the class, the student is categorized as the student having low writing skill.

The Final Scores of the Writing Test and CQ Test for the Students Who Were Taught by Using Direct Instruction Method (A_2) in the Control Class (VIII C)

No	Code	Writing Scores					CQ Score		
		Rater 1	Rater 2	Score	Criteria		Score	Criteria	
1	**8C - 1**	81	81	**81**	Low		**80**	High	
2	**8C - 2**	82	86	**84**	High		**73**	Low	
3	**8C - 3**	77	79	**78**	Low		**80**	High	
4	**8C - 4**	85	87	**86**	High		**73**	Low	
5	**8C - 5**	84	86	**85**	High		**73**	Low	
6	**8C - 6**	85	85	**85**	High		**73**	Low	
7	**8C - 7**	83	87	**85**	High		**73**	Low	
8	**8C - 8**	82	82	**82**	Low		**77**	Low	
9	**8C - 9**	82	86	**84**	High		**77**	Low	
10	**8C - 10**	85	85	**85**	High		**90**	High	
11	**8C - 11**	78	82	**80**	Low		**83**	High	
12	**8C - 12**	79	81	**80**	Low		**80**	High	
13	**8C - 13**	86	88	**87**	High		**77**	Low	
14	**8C - 14**	77	81	**79**	Low		**80**	High	
15	**8C - 15**	80	82	**81**	Low		**70**	Low	
16	**8C - 16**	78	82	**80**	Low		**70**	Low	
17	**8C - 17**	83	83	**83**	High		**87**	High	
18	**8C - 18**	81	85	**83**	High		**87**	High	
19	**8C - 19**	80	82	**81**	Low		**83**	High	
20	**8C - 20**	78	78	**78**	Low		**80**	High	
21	**8C - 21**	83	85	**84**	High		**87**	High	
22	**8C - 22**	82	82	**82**	Low		**73**	Low	
23	**8C - 23**	88	88	**88**	High		**77**	Low	
24	**8C - 24**	75	79	**77**	Low		**80**	High	
			SUM	**1978**	High	12	**1883**	High	12
			MEAN	**82.42**	Low	12	**78.46**	Low	12

Note:

Based on the table above, it can be concluded that the mean of the final writing test for the students who were taught by using Direct Instruction method (A_2) in the control class (VIII C) is **82.42.**

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APPENDIX 2
COLLECTING DATA

2.3

THE EFFECTIVENESS OF QUANTUM METHOD
TO TEACH WRITING VIEWED FROM STUDENTS' CREATIVITY
An Experimental Research to the Eighth Grade Students of SMP N 1 Bulukerto
in the 2011/2012 Academic Year

The Eight Groups of Data in the Research

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Appendix 2.3.1

The Final Scores for the Students Who Were Taught by Using Quantum Method (A_1)

No	CODE	Creativity	Criteria	Writing	Criteria
1	8B - 10	70	Low	78	Low
2	8B - 18	73	Low	78	Low
3	8B - 20	73	Low	78	Low
4	8B - 23	73	Low	79	Low
5	8B - 06	73	Low	79	Low
6	8B - 24	73	Low	80	Low
7	8B - 21	77	Low	81	Low
8	8B - 05	77	Low	82	Low
9	8B - 17	77	Low	83	Low
10	8B - 14	77	Low	83	Low
11	8B - 13	77	Low	84	Low
12	8B - 19	77	Low	85	Low
13	8B - 03	80	High	87	High
14	8B - 07	83	High	87	High
15	8B - 02	83	High	88	High
17	8B - 11	83	High	88	High
18	8B - 12	83	High	88	High
16	8B - 15	83	High	88	High
19	8B - 01	87	High	89	High
20	8B - 04	87	High	89	High
23	8B - 16	87	High	89	High
21	8B - 22	87	High	89	High
22	8B - 08	87	High	90	High
24	8B - 09	90	High	90	High
	Sum	1917	High	2032	High
	Mean	79.88	12	84.67	12
	Max	90	Low	90	Low
	Min	70	12	78	12

Appendix 2.3.2

The Final Scores for the Students Who Were Taught by Using Direct Instruction Method (A_2)

No	CODE	Creativity	Criteria	Writing	Criteria
1	8C - 24	80	High	77	Low
2	8C - 03	80	High	78	Low
3	8C - 20	80	High	78	Low
4	8C - 14	80	High	79	Low
5	8C - 16	70	Low	80	Low
6	8C - 12	80	High	80	Low
7	8C - 11	83	High	80	Low
8	8C - 15	70	Low	81	Low
9	8C - 01	80	High	81	Low
10	8C - 19	83	High	81	Low
11	8C - 22	73	Low	82	Low
12	8C - 08	77	Low	82	Low
13	8C - 17	87	High	83	High
14	8C - 18	87	High	83	High
15	8C - 02	73	Low	84	High
16	8C - 09	77	Low	84	High
17	8C - 21	87	High	84	High
18	8C - 05	73	Low	85	High
19	8C - 06	73	Low	85	High
20	8C - 07	73	Low	85	High
21	8C - 10	90	High	85	High
22	8C - 04	73	Low	86	High
23	8C - 13	77	Low	87	High
24	8C - 23	77	Low	88	High
	Sum	1883	High	1978	High
	Mean	78.46	12	82.42	12
	Max	90	Low	88	Low
	Min	70	12	77	12

Appendix 2.3.3

The Final Scores for the Students Having High CQ (B_1)

No	CODE	Creativity	Criteria	Writing	Criteria
1	8C - 24	80	High	77	Low
2	8C - 03	80	High	78	Low
3	8C - 20	80	High	78	Low
4	8C - 14	80	High	79	Low
5	8C - 12	80	High	80	Low
6	8C - 11	83	High	80	Low
7	8C - 01	80	High	81	Low
8	8C - 19	83	High	81	Low
9	8C - 17	87	High	83	Low
10	8C - 18	87	High	83	Low
11	8C - 21	87	High	84	Low
12	8C - 10	90	High	85	Low
13	8B - 03	80	High	87	High
14	8B - 07	83	High	87	High
15	8B - 02	83	High	88	High
16	8B - 11	83	High	88	High
17	8B - 12	83	High	88	High
18	8B - 15	83	High	88	High
19	8B - 01	87	High	89	High
20	8B - 04	87	High	89	High
21	8B - 16	87	High	89	High
22	8B - 22	87	High	89	High
23	8B - 08	87	High	90	High
24	8B - 09	90	High	90	High
	Sum	2017	High	2031	High
	Mean	84.04	24	84.63	12
	Max	90	Low	90	Low
	Min	80	0	77	12

Appendix 2.3.4

The Final Scores for the Students Having Low CQ (B_2)

No	CODE	Creativity	Criteria	Writing	Criteria
1	8B - 10	70	Low	78	Low
2	8B - 18	73	Low	78	Low
3	8B - 20	73	Low	78	Low
4	8B - 23	73	Low	79	Low
5	8B - 06	73	Low	79	Low
6	8C - 16	70	Low	80	Low
7	8B - 24	73	Low	80	Low
8	8C - 15	70	Low	81	Low
9	8B - 21	77	Low	81	Low
10	8C - 22	73	Low	82	Low
11	8B - 05	77	Low	82	Low
12	8C - 08	77	Low	82	Low
13	8B - 17	77	Low	83	High
14	8B - 14	77	Low	83	High
15	8C - 02	73	Low	84	High
17	8B - 13	77	Low	84	High
18	8C - 09	77	Low	84	High
16	8C - 05	73	Low	85	High
19	8C - 06	73	Low	85	High
20	8C - 07	73	Low	85	High
23	8B - 19	77	Low	85	High
21	8C - 04	73	Low	86	High
22	8C - 13	77	Low	87	High
24	8C - 23	77	Low	88	High
	Sum	1783	High	1979	High
	Mean	74.29	0	82.46	12
	Max	77	Low	88	Low
	Min	70	24	78	12

Appendix 2.3.5

The Final Scores for the Students Having High CQ Who Were Taught by Using Quantum Method (A_1B_1)

No	CODE	Creativity	Criteria	Writing	Criteria
1	8B - 03	80	High	87	Low
2	8B - 07	83	High	87	Low
3	8B - 02	83	High	88	Low
4	8B - 11	83	High	88	Low
5	8B - 12	83	High	88	Low
6	8B - 15	83	High	88	Low
7	8B - 01	87	High	89	High
8	8B - 04	87	High	89	High
9	8B - 16	87	High	89	High
10	8B - 22	87	High	89	High
11	8B - 08	87	High	90	High
12	8B - 09	90	High	90	High
13					
14					
15					
17					
18					
16					
19					
20					
23					
21					
22					
24					
	Sum	1020	High	1062	High
	Mean	85	12	88.5	6
	Max	90	Low	90	Low
	Min	80	0	87	6

Appendix 2.3.6

The Final Scores for the Students Having Low CQ Who Were Taught by Using Quantum Method (A_1B_2)

No	CODE	Creativity	Criteria	Writing	Criteria
1	8B - 10	70	Low	78	Low
2	8B - 18	73	Low	78	Low
3	8B - 20	73	Low	78	Low
4	8B - 23	73	Low	79	Low
5	8B - 06	73	Low	79	Low
6	8B - 24	73	Low	80	Low
7	8B - 21	77	Low	81	High
8	8B - 05	77	Low	82	High
9	8B - 17	77	Low	83	High
10	8B - 14	77	Low	83	High
11	8B - 13	77	Low	84	High
12	8B - 19	77	Low	85	High
13					
14					
15					
17					
18					
16					
19					
20					
23					
21					
22					
24					
	Sum	897	High	970	High
	Mean	74.75	0	80.83	6
	Max	77	Low	85	Low
	Min	70	12	78	6

Appendix 2.3.7

The Final Scores for the Students Having Low CQ Who Were Taught by Using Direct Instruction Method (A_2B_1)

No	CODE	Creativity	Criteria	Writing	Criteria
1	8C - 24	80	High	77	Low
2	8C - 03	80	High	78	Low
3	8C - 20	80	High	78	Low
4	8C - 14	80	High	79	Low
5	8C - 12	80	High	80	Low
6	8C - 11	83	High	80	Low
7	8C - 01	80	High	81	High
8	8C - 19	83	High	81	High
9	8C - 17	87	High	83	High
10	8C - 18	87	High	83	High
11	8C - 21	87	High	84	High
12	8C - 10	90	High	85	High
13					
14					
15					
17					
18					
16					
19					
20					
23					
21					
22					
24					
	Sum	997	High	969	High
	Mean	83.08	12	80.75	6
	Max	90	Low	85	Low
	Min	80	0	77	6

Appendix 2.3.8

The Final Scores for the Students Having High CQ Who Were Taught by Using Direct Instruction Method (A_2B_2)

No	CODE	Creativity	Criteria	Writing	Criteria
1	8C - 16	70	Low	80	Low
2	8C - 15	70	Low	81	Low
3	8C - 22	73	Low	82	Low
4	8C - 08	77	Low	82	Low
5	8C - 02	73	Low	84	Low
6	8C - 09	77	Low	84	Low
7	8C - 05	73	Low	85	High
8	8C - 06	73	Low	85	High
9	8C - 07	73	Low	85	High
10	8C - 04	73	Low	86	High
11	8C - 13	77	Low	87	High
12	8C - 23	77	Low	88	High
13					
14					
15					
17					
18					
16					
19					
20					
23					
21					
22					
24					
	Sum	886	High	1009	High
	Mean	73.83	0	84.08	6
	Max	77	Low	88	Low
	Min	70	12	80	6

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APPENDIX

3

THE EFFECTIVENESS OF QUANTUM METHOD
TO TEACH WRITING VIEWED FROM STUDENTS' CREATIVITY
An Experimental Research to the Eighth Grade Students of SMP N 1 Bulukerto in the 2011/2012 Academic Year

STATISTICAL COMPUTATION

3.1 Descriptive Statistics

3.2 The Prerequisite Tests

3.3 The Result of Testing Hypothesis

3.4 Statistical Tables

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APPENDIX 3
STATISTICAL COMPUTATION

3.1

THE EFFECTIVENESS OF QUANTUM METHOD
TO TEACH WRITING VIEWED FROM STUDENTS' CREATIVITY

An Experimental Research to the Eighth Grade Students of SMP N 1 Bulukerto in the 2011/2012 Academic Year

Descriptive Statistics

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Appendix 3.1.1

Data Description for the Writing Scores of the Students Who Were Taught by Using Quantum Method (A_1)

1. The Working Table for the Writing Scores of the Students Who Were Taught by Using Quantum Method (A_1)

No	Code	Creativity	Criteria	Writing	Criteria
1	8B - 10	70	Low	78	Low
2	8B - 18	73	Low	78	Low
3	8B - 20	73	Low	78	Low
4	8B - 23	73	Low	79	Low
5	8B - 6	73	Low	79	Low
6	8B - 24	73	Low	80	Low
7	8B - 21	77	Low	81	Low
8	8B - 5	77	Low	82	Low
9	8B - 17	77	Low	83	Low
10	8B - 14	77	Low	83	Low
11	8B - 13	77	Low	84	Low
12	8B - 19	77	Low	85	Low
13	8B - 3	80	High	87	High
14	8B - 7	83	High	87	High
15	8B - 2	83	High	88	High
17	8B - 11	83	High	88	High
18	8B - 12	83	High	88	High
16	8B - 15	83	High	88	High
19	8B - 1	87	High	89	High
20	8B - 4	87	High	89	High
23	8B - 16	87	High	89	High
21	8B - 22	87	High	89	High
22	8B - 8	87	High	90	High
24	8B - 9	90	High	90	High
	Sum	1917	High	**2032**	High
	Mean	79.88	12	**84.67**	12
	Max	90	Low	**90**	Low
	Min	70	12	**78**	12
	Range	20	Mode	12	Mode
	Class	5.55	77.00	5.55	88.00
	Interval	3.60	Median	2.16	Median
	Stdev	5.86	78.50	4.34	86.00

2. ***The Data Information for the Writing Scores of the Students Who Were Taught by Using Quantum Method (A_1)***

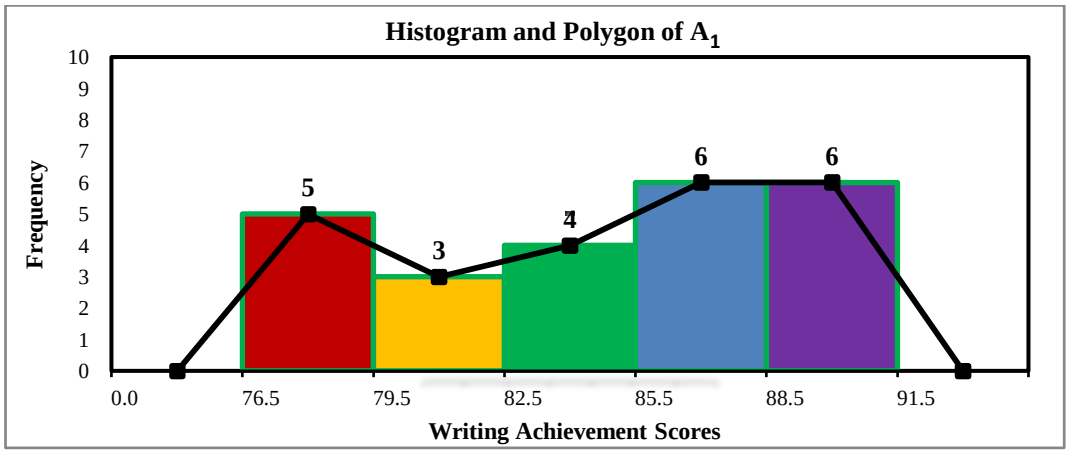
Based on the working table for the writing scores of the students who were taught by using Quantum method (A_1) above

- Number of respondents (n) : **24**
- The highest score : **90**
- The lowest score : **78**
- The total scores : **2032**
- The range : The highest score – Thelowest score
  = 90 – 78 = **12**
- The number of class : 1 + 3.3(log n) = 1 + 3.3 (log 24)
  = 1 + 3.3 (1.38) = 5.55 (**5** is used)
- The class width (interval) : The range : The number of class
  = 15 : 5 = 2.40 (**3** is used)

3. ***The Table of Frequency Distribution for the Writing Scores of the Students Who Were Taught by Using Quantum Method (A_1)***

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	f_ix_i	Percentage %
1	77-79	76.5-79.5	~~IIII~~	5	78	390	19.20%
2	80-82	79.5-82.5	III	3	81	243	11.96%
3	83-85	82.5-85.5	IIII	4	84	336	16.54%
4	86-88	85.5-88.5	~~IIII~~ I	6	87	522	25.70%
5	89-91	88.5-91.5	~~IIII~~ I	6	90	540	26.59%
				24	420	2031	100.00%

4. ***The Histogram and Polygon of the Frequency Distribution for the Writing Scores of the Students Who Were Taught by Using Quantum Method (A_1)***



5. The Result of Data in the Frequency Distribution for the Writing Scores of the Students Who Were Taught by Using Quantum Method (A_1)

a) MEAN

Mean in individual data = **84.67**

$$\overline{X} = \frac{\sum X}{n} \qquad \overline{X} = \frac{\sum X}{n} = \frac{2032}{24} = 84.67$$

Mean in frequency distribution = **84.63**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	$f_i x_i$
1	77-79	76.5-79.5	5	78	390
2	80-82	79.5-82.5	3	81	243
3	83-85	82.5-85.5	4	84	336
4	86-88	85.5-88.5	6	87	522
5	89-91	88.5-91.5	6	90	540
			24	420	2031

$$\overline{X} = \frac{\sum f_i X_i}{n} \qquad \overline{X} = \frac{\sum f_i X_i}{n} = \frac{2031}{24} = 84.63$$

Mean in frequency distribution = **84.63**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	c_i	$f_i c_i$	
1	77-79	76.5-79.5	5	78	-3	-15	
2	80-82	79.5-82.5	3	81	-2	-6	
3	83-85	82.5-85.5	4	84	-1	-4	
4	86-88	85.5-88.5	6	87	0	0	Mean Class
5	89-91	88.5-91.5	6	90	1	6	(Highest f_i)
			24	420	-5	-19	

$$\overline{X} = X_o + i\left[\frac{\sum f_i c_i}{\sum f_i}\right] \qquad \overline{X} = 87 + 3\left[\frac{-19}{24}\right] = 84.63$$

b) MODE

Mode individual data = **88.00**

Mode in frequency distribution = **88.50**

No	Class Limit	Class Boundaries	Frequency f_i	
1	77-79	76.5-79.5	5	
2	80-82	79.5-82.5	3	
3	83-85	82.5-85.5	4	
4	86-88	85.5-88.5	6	Mode Class
5	89-91	88.5-91.5	6	
			24	

$$Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) \qquad Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) = 85.5 + 3\left(\frac{(6-4)}{(6-4)+(6-6)}\right) = 88.50$$

c) MEDIAN

Median individual data = **86.00**

Median in frequency distribution = **85.50**

No	Class Limit	Class Boundaries	Frequency f_i	
1	77-79	76.5-79.5	5	
2	80-82	79.5-82.5	3	
3	83-85	82.5-85.5	4	
4	86-88	85.5-88.5	6	Median Class
5	89-91	88.5-91.5	6	
			24	

$$Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) \qquad Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) = 85.5 + 3\left(\frac{\frac{24}{2} - (5+3+4)}{6}\right) = 85.50$$

d) STANDARD DEVIATION

Standard deviation in individual data = **4.34**

Standard deviation in frequency distribution = **4.51**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	X_i^2	f_iX_i	$f_iX_i^2$
1	77-79	76.5-79.5	5	78	6084	390	30420
2	80-82	79.5-82.5	3	81	6561	243	19683
3	83-85	82.5-85.5	4	84	7056	336	28224
4	86-88	85.5-88.5	6	87	7569	522	45414
5	89-91	88.5-91.5	6	90	8100	540	48600
			24	420	35370	2031	172341

$$s = \sqrt{\frac{\sum f_i {X_i}^2 - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} \qquad s = \sqrt{\frac{\sum f_i {X_i}^2 - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} = \sqrt{\frac{172341 - \frac{(2031)^2}{24}}{24-1}} = 4.51$$

Standard deviation in frequency distribution = **4.51**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	c_i	c_i^2	f_ic_i	$f_ic_i^2$	
1	77-79	76.5-79.5	5	78	-3	9	-15	45	
2	80-82	79.5-82.5	3	81	-2	4	-6	12	
3	83-85	82.5-85.5	4	84	-1	1	-4	4	
4	86-88	85.5-88.5	6	87	0	0	0	0	V
5	89-91	88.5-91.5	6	90	1	1	6	6	
			24	420	-5	15	-19	67	

$$s = \sqrt{i\left[\frac{\sum f_i {c_i}^2 - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} \qquad s = \sqrt{i\left[\frac{\sum f_i {c_i}^2 - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} = \sqrt{3\left[\frac{67 - \frac{(-19)^2}{24}}{24-1}\right]} = 4.51$$

Appendix 3.1.2

Data Description for the Writing Scores of the Students Who Were Taught by Using Direct Instruction Method (A_2)

1. The Working Table for the Writing Scores of the Students Who Were Taught by Using Direct Instruction Method (A_2)

No	Code	Creativity	Criteria	Writing	Criteria
1	8C - 24	80	High	77	Low
2	8C - 3	80	High	78	Low
3	8C - 20	80	High	78	Low
4	8C - 14	80	High	79	Low
5	8C - 16	70	Low	80	Low
6	8C - 12	80	High	80	Low
7	8C - 11	83	High	80	Low
8	8C - 15	70	Low	81	Low
9	8C - 1	80	High	81	Low
10	8C - 19	83	High	81	Low
11	8C - 22	73	Low	82	Low
12	8C - 8	77	Low	82	Low
13	8C - 17	87	High	83	High
14	8C - 18	87	High	83	High
15	8C - 2	73	Low	84	High
16	8C - 9	77	Low	84	High
17	8C - 21	87	High	84	High
18	8C - 5	73	Low	85	High
19	8C - 6	73	Low	85	High
20	8C - 7	73	Low	85	High
21	8C - 10	90	High	85	High
22	8C - 4	73	Low	86	High
23	8C - 13	77	Low	87	High
24	8C - 23	77	Low	88	High
	Sum	1883	High	**1978**	High
	Mean	78.46	12	**82.42**	12
	Max	90	Low	**88**	Low
	Min	70	12	**77**	12
	Range	20	Mode	11	Mode
	Class	5.55	80.00	5.55	85.00
	Interval	3.60	Median	1.98	Median
	Stdev	5.66	78.50	2.98	82.50

2. *The Data Information for the Writing Scores of the Students Who Were Taught by Using Direct Instruction Method (A_2)*

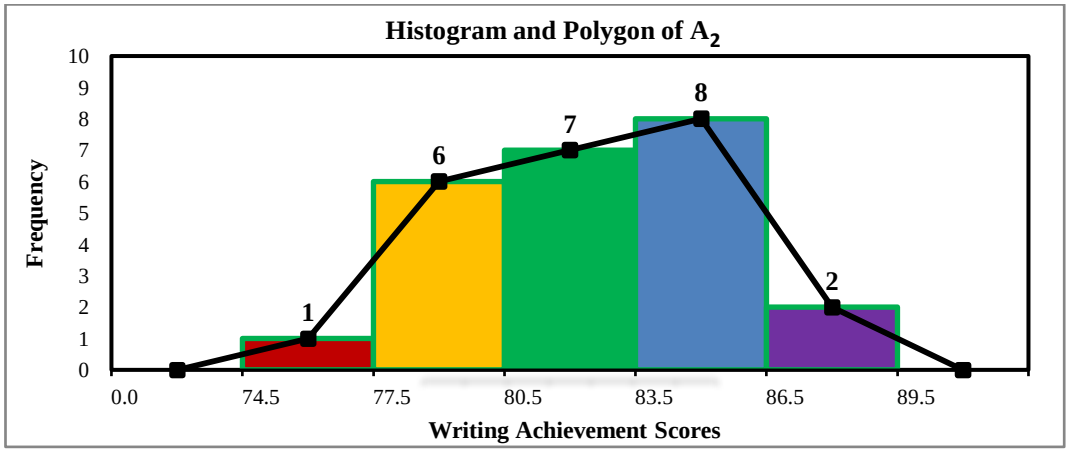
Based on the working table for the writing scores of the students who were taught by using Direct Instruction method (A_2) above

- Number of respondents (n) : **24**
- The highest score : **88**
- The lowest score : **77**
- The total scores : **1978**
- The range : The highest score – Thelowest score
  = 88 – 77 = **11**
- The number of class : 1 + 3.3(log n) = 1 + 3.3(log 24)
  = 1 + 3.3 (1.38) = 5.55 (**5** is used)
- The class width (interval) : The range : The number of class
  = 11 : 5 = 2.20 (**3** is used)

3. *The Table of Frequency Distribution for the Writing Scores of the Students Who Were Taught by Using Direct Instruction Method (A_2)*

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	f_ix_i	Percentage %
1	75-77	74.5-77.5	I	1	76	76	3.84%
2	78-80	77.5-80.5	~~IIII~~ I	6	79	474	23.94%
3	81-83	80.5-83.5	~~IIII~~ II	7	82	574	28.99%
4	84-86	83.5-86.5	~~IIII~~ III	8	85	680	34.34%
5	87-89	86.5-89.5	II	2	88	176	8.89%
				24	410	1980	100.00%

4. *The Histogram and Polygon of the Frequency Distribution for for the Writing Scores of the Students Who Were Taught by Using Direct Instruction Method (A_2)*



5. The Result of Data in the Frequency Distribution for the Writing Scores of the Students Who Were Taught by Using Direct Instruction Method (A_2)

a) MEAN

Mean in individual data = **82.42**

$$\overline{X} = \frac{\sum X}{n} \qquad \overline{X} = \frac{\sum X}{n} = \frac{1978}{24} = 82.42$$

Mean in frequency distribution = **82.50**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	f_ix_i
1	75-77	74.5-77.5	1	76	76
2	78-80	77.5-80.5	6	79	474
3	81-83	80.5-83.5	7	82	574
4	84-86	83.5-86.5	8	85	680
5	87-89	86.5-89.5	2	88	176
			24	410	1980

$$\overline{X} = \frac{\sum f_i X_i}{n} \qquad \overline{X} = \frac{\sum f_i X_i}{n} = \frac{1980}{24} = 82.50$$

Mean in frequency distribution = **82.50**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	c_i	f_ic_i	
1	75-77	74.5-77.5	1	76	-3	-3	
2	78-80	77.5-80.5	6	79	-2	-12	
3	81-83	80.5-83.5	7	82	-1	-7	
4	84-86	83.5-86.5	8	85	0	0	Mean Class
5	87-89	86.5-89.5	2	88	1	2	(Highest f_i)
			24	410	-5	-20	

$$\overline{X} = X_o + i\left[\frac{\sum f_i c_i}{\sum f_i}\right] \qquad \overline{X} = 85 + 3\left[\frac{-20}{24}\right] = 82.50$$

b) MODE

Mode in individual data = **85.00**

Mode in frequency distribution = **83.93**

No	Class Limit	Class Boundaries	Frequency f_i	
1	75-77	74.5-77.5	1	
2	78-80	77.5-80.5	6	
3	81-83	80.5-83.5	7	
4	84-86	83.5-86.5	8	Mode Class
5	87-89	86.5-89.5	2	
			24	

$$Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) \qquad Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) = 83.5 + 3\left(\frac{(8-7)}{(8-7)+(8-2)}\right) = 83.93$$

c) MEDIAN

Median in individual data = **82.50**

Median in frequency distribution = **82.64**

No	Class Limit	Class Boundaries	Frequency f_i	
1	75-77	74.5-77.5	1	
2	78-80	77.5-80.5	6	
3	81-83	80.5-83.5	7	Median Class
4	84-86	83.5-86.5	8	
5	87-89	86.5-89.5	2	
			24	

$$Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) \qquad Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) = 80.5 + 3\left(\frac{\frac{24}{2} - (1+6)}{7}\right) = 82.64$$

d) STANDARD DEVIATION

Standard deviation in individual data = **2.98**

Standard deviation in frequency distribution = **3.15**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	X_i^2	f_iX_i	$f_iX_i^2$
1	75-77	74.5-77.5	1	76	5776	76	5,776.00
2	78-80	77.5-80.5	6	79	6241	474	37,446.00
3	81-83	80.5-83.5	7	82	6724	574	47,068.00
4	84-86	83.5-86.5	8	85	7225	680	57,800.00
5	87-89	86.5-89.5	2	88	7744	176	15,488.00
			24	410	33710	1980	163578

$$s = \sqrt{\frac{\sum f_i X_i^{\,2} - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} \qquad s = \sqrt{\frac{\sum f_i X_i^{\,2} - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} = \sqrt{\frac{163578 - \frac{(1980)^2}{24}}{24-1}} = 3.15$$

Standard deviation in frequency distribution = **3.15**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	c_i	c_i^2	f_ic_i	$f_ic_i^2$
1	75-77	74.5-77.5	1	76	-3	9	-3	9
2	78-80	77.5-80.5	6	79	-2	4	-12	24
3	81-83	80.5-83.5	7	82	-1	1	-7	7
4	84-86	83.5-86.5	8	85	0	0	0	0
5	87-89	86.5-89.5	2	88	1	1	2	2
			24	410	-5	15	-20	42

V

$$s = \sqrt{i\left[\frac{\sum f_i c_i^{\,2} - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} \qquad s = \sqrt{i\left[\frac{\sum f_i c_i^{\,2} - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} = \sqrt{3\left[\frac{(42) - \frac{(-20)^2}{24}}{24-1}\right]} = 3.15$$

Appendix 3.1.3

Data Description for the Writing Scores of the Students Having High CQ (B_1)

1. The Working Table for the Writing Scores of the Students Having High CQ (B_1)

No	Code	Creativity	Criteria	Writing	Criteria
1	8C - 24	80	High	77	Low
2	8C - 3	80	High	78	Low
3	8C - 20	80	High	78	Low
4	8C - 14	80	High	79	Low
5	8C - 12	80	High	80	Low
6	8C - 11	83	High	80	Low
7	8C - 1	80	High	81	Low
8	8C - 19	83	High	81	Low
9	8C - 17	87	High	83	High
10	8C - 18	87	High	83	High
11	8C - 21	87	High	84	High
12	8C - 10	90	High	85	High
13	8B - 3	80	High	87	High
14	8B - 7	83	High	87	High
15	8B - 2	83	High	88	High
16	8B - 11	83	High	88	High
17	8B - 12	83	High	88	High
18	8B - 15	83	High	88	High
19	8B - 1	87	High	89	High
20	8B - 4	87	High	89	High
21	8B - 16	87	High	89	High
22	8B - 22	87	High	89	High
23	8B - 8	87	High	90	High
24	8B - 9	90	High	90	High
	Sum	2017	High	**2031**	High
	Mean	84.04	24	**84.63**	16
	Max	90	Low	**90**	Low
	Min	80	0	**77**	8
	Range	10	Mode	13	Mode
	Class	5.55	87.00	5.55	88.00
	Interval	1.80	Median	2.34	Median
	Stdev	3.38	83.00	4.39	86.00

2. *The Data Information for the Writing Scores of the Students Having High CQ (B_1)*

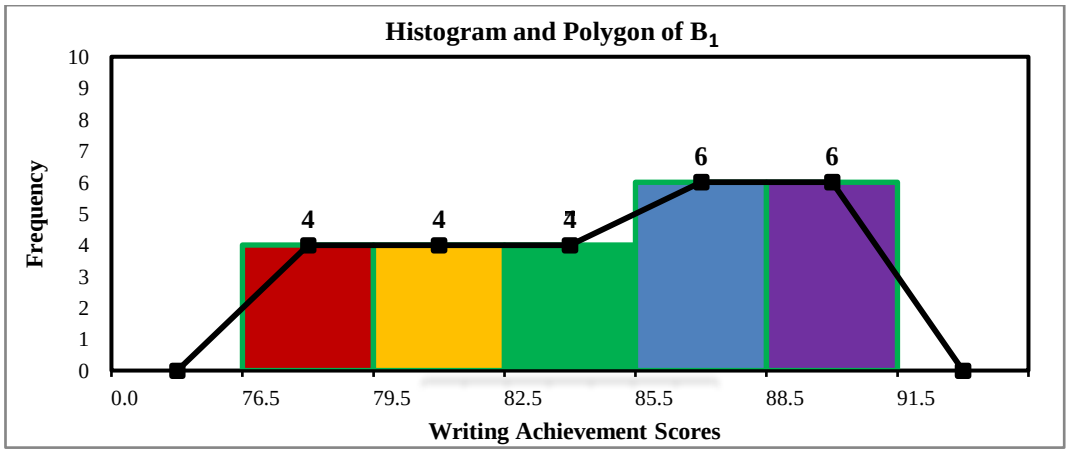
Based on the working table for the writing scores of the students having high CQ (B_1) above

- Number of respondents (n) : **24**
- The highest score : **90**
- The lowest score : **77**
- The total scores : **2031**
- The range : The highest score – Thelowest score
  = 90 – 77 = **13**
- The number of class : 1 + 3.3(log n) = 1 + 3.3(log 24)
  = 1 + 3.3 (1.38) = 5.55 (**5** is used)
- The class width (interval) : The range : The number of class
  = 13 : 5 = 2.60 **(3** is used)

3. *The Table of Frequency Distribution for the Writing Scores of the Students Having High CQ (B_1)*

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	f_ix_i	Percentage %
1	77-79	76.5-79.5	IIII	4	78	312	15.34%
2	80-82	79.5-82.5	IIII	4	81	324	15.93%
3	83-85	82.5-85.5	IIII	4	84	336	16.52%
4	86-88	85.5-88.5	~~IIII~~ I	6	87	522	25.66%
5	89-91	88.5-91.5	~~IIII~~ I	6	90	540	26.55%
				24	420	2034	100.00%

4. *The Histogram and Polygon of the Frequency Distribution for the Writing Scores of the Students Having High CQ (B_1)*



5. The Result of Data in the Frequency Distribution for the Writing Scores of the Students Having High CQ (B_1)

a) MEAN

Mean in individual data = **84.63**

$$\overline{X} = \frac{\sum X}{n} \qquad \overline{X} = \frac{\sum X}{n} = \frac{2031}{24} = 84.63$$

Mean in frequency distribution = **84.75**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	$f_i x_i$
1	77-79	76.5-79.5	4	78	312
2	80-82	79.5-81.5	4	81	324
3	83-85	82.5-84.5	4	84	336
4	86-88	85.5-87.5	6	87	522
5	89-91	88.5-90.5	6	90	540
			24	420	2034

$$\overline{X} = \frac{\sum f_i X_i}{n} \qquad \overline{X} = \frac{\sum f_i X_i}{n} = \frac{2034}{24} = 84.75$$

Mean in frequency distribution = **84.75**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	c_i	$f_i c_i$	
1	77-79	76.5-79.5	4	78	-3	-12	
2	80-82	79.5-81.5	4	81	-2	-8	
3	83-85	82.5-84.5	4	84	-1	-4	
4	86-88	85.5-87.5	6	87	0	0	Mean Class
5	89-91	88.5-90.5	6	90	1	6	
			24	420	-5	-18	

$$\overline{X} = X_o + i\left[\frac{\sum f_i c_i}{\sum f_i}\right] \qquad \overline{X} = 87 + 3\left[\frac{-18}{24}\right] = 84.75$$

b) MODE

Mode in individual data = **88.00**

Mode in frequency distribution = **88.50**

No	Class Limit	Class Boundaries	Frequency f_i	
1	77-79	76.5-79.5	4	
2	80-82	79.5-81.5	4	
3	83-85	82.5-84.5	4	
4	86-88	85.5-87.5	6	Mode Class
5	89-91	88.5-90.5	6	
			24	

$$Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) \qquad Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) = 85.5 + 3\left(\frac{(6-4)}{(6-4)+(6-6)}\right) = 88.50$$

c) MEDIAN

Median in individual data = **86.00**

Median in frequency distribution = **85.50**

No	Class Limit	Class Boundaries	Frequency f_i	
1	77-79	76.5-79.5	4	
2	80-82	79.5-81.5	4	
3	83-85	82.5-84.5	4	
4	86-88	85.5-87.5	6	Median Class
5	89-91	88.5-90.5	6	
			24	

$$Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) \qquad Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) = 85.5 + 3\left(\frac{\frac{24}{2} - (4+4+4)}{6}\right) = 85.50$$

d) STANDARD DEVIATION

Standard deviation in individual data = **4.39**

Standard deviation in frequency distribution = **4.36**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	X_i^2	f_iX_i	$f_iX_i^2$
1	77-79	76.5-79.5	4	78	6,084	390	30,420
2	80-82	79.5-81.5	4	81	6,561	243	19,683
3	83-85	82.5-84.5	4	84	7,056	336	28,224
4	86-88	85.5-87.5	6	87	7,569	522	45,414
5	89-91	88.5-90.5	6	90	8,100	540	48,600
			24	420	35370	2031	172341

$$s = \sqrt{\frac{\sum f_i X_i^{\,2} - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} \qquad s = \sqrt{\frac{\sum f_i X_i^{\,2} - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} = \sqrt{\frac{172341 - \frac{(2031)^2}{24}}{24-1}} = 4.36$$

Standard deviation in frequency distribution = **4.36**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	c_i	c_i^2	f_ic_i	$f_ic_i^2$
1	77-79	76.5-79.5	4	78	-2	4	-10	20
2	80-82	79.5-81.5	4	81	-1	1	-3	3
3	83-85	82.5-84.5	4	84	0	0	0	0
4	86-88	85.5-87.5	6	87	1	1	6	6
5	89-91	88.5-90.5	6	90	2	4	12	24
			24	420	0	10	5	53

V

$$s = \sqrt{i\left[\frac{\sum f_i c_i^{\,2} - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} \qquad s = \sqrt{i\left[\frac{\sum f_i c_i^{\,2} - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} = \sqrt{3\left[\frac{(53) - \frac{(5)^2}{24}}{24-1}\right]} = 4.36$$

Appendix 3.1.4

Data Description for the Writing Scores of the Students Having Low CQ (B_2)

1. The Working Table for the Writing Scores of the Students Having Low CQ (B_2)

No	Code	Creativity	Criteria	Writing	Criteria
1	8B - 10	70	Low	78	Low
2	8B - 18	73	Low	78	Low
3	8B - 20	73	Low	78	Low
4	8B - 23	73	Low	79	Low
5	8B - 6	73	Low	79	Low
6	8C - 16	70	Low	80	Low
7	8B - 24	73	Low	80	Low
8	8C - 15	70	Low	81	Low
9	8B - 21	77	Low	81	Low
10	8C - 22	73	Low	82	Low
11	8B - 5	77	Low	82	Low
12	8C - 8	77	Low	82	Low
13	8B - 17	77	Low	83	Low
14	8B - 14	77	Low	83	Low
15	8C - 2	73	Low	84	High
16	8B - 13	77	Low	84	Low
17	8C - 9	77	Low	84	High
18	8C - 5	73	Low	85	High
19	8C - 6	73	Low	85	High
20	8C - 7	73	Low	85	High
21	8B - 19	77	Low	85	Low
22	8C - 4	73	Low	86	High
23	8C - 13	77	Low	87	High
24	8C - 23	77	Low	88	High
	Sum	1783	High	**1979**	High
	Mean	74.29	0	**82.46**	8
	Max	77	Low	**88**	Low
	Min	70	24	**78**	16
	Range	7	Mode	10	Mode
	Class	5.55	73.00	5.55	85.00
	Interval	1.26	Median	1.80	Median
	Stdev	2.53	73.00	2.93	82.50

2. The Data Information for the Writing Scores of the Students Having Low CQ (B_2)

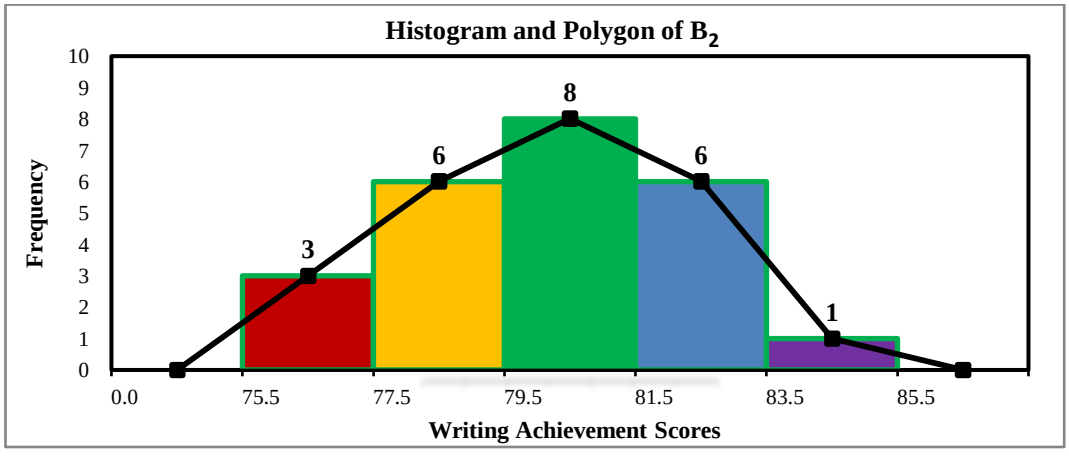
Based on the working table for the writing scores of the students having Low CQ (B_2) above

- Number of respondents (n) : **24**
- The highest score : **88**
- The lowest score : **78**
- The total scores : **1979**
- The range : The highest score – Thelowest score
  = 88 -78 = **10**
- The number of class : 1 + 3.3(log n) = 1 + 3.3(log 24)
  = 1 + 3.3 (1.38) = 5.55 (**5** is used)
- The class width (interval) : The range : The number of class
  = 10 : 5 = 2.00 **(2** is used)

3. The Table of Frequency Distribution for the Writing Scores of the Students Having Low CQ (B_2)

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	f_ix_i	Percentage %
1	76-77	75.5-77.5	III	3	76.5	229.5	11.93%
2	78-79	77.5-79.5	~~IIII~~ I	6	78.5	471.0	24.48%
3	80-81	79.5-81.5	~~IIII~~ III	8	80.5	644.0	33.47%
4	82-83	81.5-83.5	~~IIII~~ I	6	82.5	495.0	25.73%
5	84-85	83.5-85.5	I	1	84.5	84.5	4.39%
				24	402.5	1924	100.00%

4. The Histogram and Polygon of the Frequency Distribution for the Writing Scores of the Students Having Low CQ (B_2)



5. The Result of Data in the Frequency Distribution for the Writing Scores of the Students Having Low CQ (B_2)

a) MEAN

Mean in individual data = **82.46**

$$\overline{X} = \frac{\sum X}{n} \qquad \overline{X} = \frac{\sum X}{n} = \frac{1979}{24} = 82.46$$

Mean in frequency distribution = **80.17**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	$f_i x_i$
1	76-77	75.5-77.5	3	76.5	229.5
2	78-79	77.5-79.5	6	78.5	471.0
3	80-81	79.5-81.5	8	80.5	644.0
4	82-83	81.5-83.5	6	82.5	495.0
5	84-85	83.5-85.5	1	84.5	84.5
			24	402.5	1924

$$\overline{X} = \frac{\sum f_i X_i}{n} \qquad \overline{X} = \frac{\sum f_i X_i}{n} = \frac{1924}{24} = 80.17$$

Mean in frequency distribution = **80.17**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	c_i	$f_i c_i$	
1	76-77	75.5-77.5	3	76.5	-2	-6	
2	78-79	77.5-79.5	6	78.5	-1	-6	
3	80-81	79.5-81.5	8	80.5	0	0	Mean Class
4	82-83	81.5-83.5	6	82.5	1	6	
5	84-85	83.5-85.5	1	84.5	2	2	
			24	402.5	0	-4	

$$\overline{X} = X_o + i\left[\frac{\sum f_i c_i}{\sum f_i}\right] \qquad \overline{X} = 80.5 + 2\left[\frac{-4}{24}\right] = 80.17$$

b) MODE

Mode in individual data = **85.50**

Mode in frequency distribution = **80.50**

No	Class Limit	Class Boundaries	Frequency f_i	
1	76-77	75.5-77.5	3	
2	78-79	77.5-79.5	6	
3	80-81	79.5-81.5	8	Mode Class
4	82-83	81.5-83.5	6	
5	84-85	83.5-85.5	1	
			24	

$$Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) \qquad Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) = 79.5 + 2\left(\frac{(8-6)}{(8-6)+(8-6)}\right) = 80.50$$

c) MEDIAN

Median in individual data = **82.50**

Median in frequency distribution = **80.25**

No	Class Limit	Class Boundaries	Frequency f_i	
1	76-77	75.5-77.5	3	
2	78-79	77.5-79.5	6	
3	80-81	79.5-81.5	8	Median Class
4	82-83	81.5-83.5	6	
5	84-85	83.5-85.5	1	
			24	

$$Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) \qquad Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) = 79.5 + 2\left(\frac{\frac{24}{2} - (6+3)}{8}\right) = 80.25$$

d) STANDARD DEVIATION

Standard deviation in individual data = **2.93**

Standard deviation in frequency distribution = **2.18**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	X_i^2	f_iX_i	$f_iX_i^2$
1	76-77	75.5-77.5	3	76.5	5852	230	17557
2	78-79	77.5-79.5	6	78.5	6162	471	36974
3	80-81	79.5-81.5	8	80.5	6480	644	51842
4	82-83	81.5-83.5	6	82.5	6806	495	40838
5	84-85	83.5-85.5	1	84.5	7140	85	7140
			24	402.5	32441	1924	154350

$$s = \sqrt{\frac{\sum f_i {X_i}^2 - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} \qquad s = \sqrt{\frac{\sum f_i {X_i}^2 - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} = \sqrt{\frac{154350 - \frac{(1924)^2}{24}}{24-1}} = 2.18$$

Standard deviation in frequency distribution = **2.18**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	c_i	c_i^2	f_ic_i	$f_ic_i^2$
1	76-77	75.5-77.5	3	76.5	-2	4	-6	12
2	78-79	77.5-79.5	6	78.5	-1	1	-6	6
3	80-81	79.5-81.5	8	80.5	0	0	0	0
4	82-83	81.5-83.5	6	82.5	1	1	6	6
5	84-85	83.5-85.5	1	84.5	2	4	2	4
			24	402.5	0	10	-4	28

V

$$s = \sqrt{i\left[\frac{\sum f_i {c_i}^2 - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} \qquad s = \sqrt{i\left[\frac{\sum f_i {c_i}^2 - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} = \sqrt{2\left[\frac{(28) - \frac{(-4)^2}{24}}{24-1}\right]} = 2.18$$

Appendix 3.1.5

Data Description for the Writing Scores of the Students Having High CQ Who Were Taught by Using Quantum method (A_1B_1)

1. The Working Table for the Writing Scores of the Students Having High CQ Who Were Taught by Using Quantum Method (A_1B_1)

No	Code	Creativity	Criteria	Writing	Criteria
1	8B - 3	80	High	87	High
2	8B - 7	83	High	87	High
3	8B - 2	83	High	88	High
4	8B - 11	83	High	88	High
5	8B - 12	83	High	88	High
6	8B - 15	83	High	88	High
7	8B - 1	87	High	89	High
8	8B - 4	87	High	89	High
9	8B - 16	87	High	89	High
10	8B - 22	87	High	89	High
11	8B - 8	87	High	90	High
12	8B - 9	90	High	90	High
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
	Sum	1020	High	**1062**	High
	Mean	85.00	12	**88.50**	12
	Max	90	Low	**90**	Low
	Min	80	0	**87**	0
	Range	10	Mode	3	Mode
	Class	4.56	83.00	4.56	88.00
	Interval	2.19	Median	0.66	Median
	Stdev	2.86	85.00	1.00	88.50

2. ***The Data Information for the Writing Scores of the Students Having High CQ Who Were Taught by Using Quantum Method (A_1B_1)***

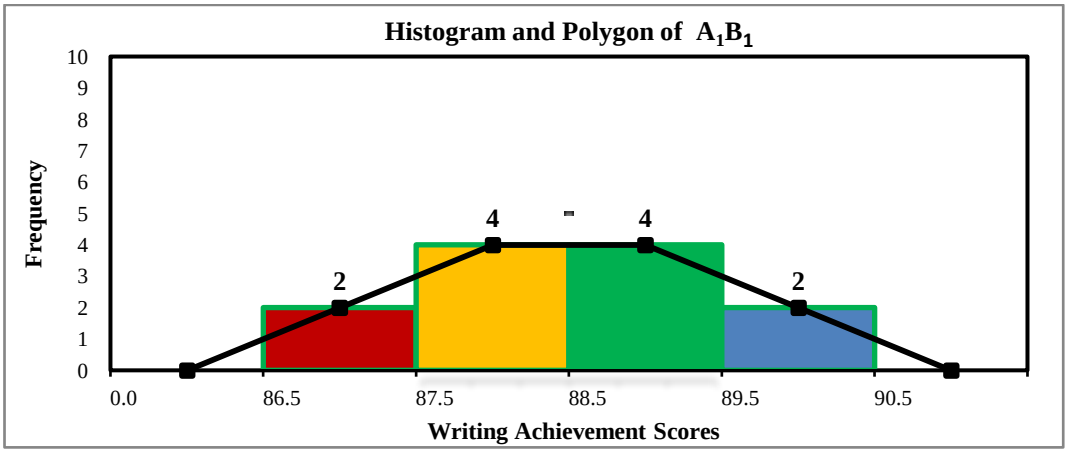
Based on the working table for the writing scores of the students having high CQ whoare taught by using using Quantum method (A_1B_1) above

- Number of respondents (n) : **12**
- The highest score : **90**
- The lowest score : **87**
- The total scores : **1062**
- The range : The highest score - The lowest score
  = 90 – 87 = **3**
- The number of class : 1 + 3.3(log n) = 1 + 3.3(log 12)
  = 1 + 3.3 (1.08) = 4.56 (**4** is used)
- The class width (interval) : The range : The number of class
  = 3 : 4 = 0.75 **(1** is used)

3. ***The Table of Frequency Distribution for the Writing Scores of the Students Having High CQ Who Were Taught by Using Quantum Method (A_1B_1)***

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	f_ix_i	Percentage %
1	87-87	86.5-87.5	II	2	87	174	16.38%
2	88-88	87.5-88.5	IIII	4	88	352	33.15%
3	89-89	88.5-89.5	IIII	4	89	356	33.52%
4	90-90	89.5-90.5	II	2	90	180	16.95%
				12	354	1062	100.00%

4. ***The Histogram and Polygon of the Frequency Distribution for the Writing Scores of the Students Having High CQ Who Were Taught by Using Quantum Method (A_1B_1)***



5. The Result of Data in the Frequency Distribution for the Writing Scores of the Students Having High CQ Who Were Taught by Using Quantum Method (A_1B_1)

a) MEAN

Mean in individual data = **88.50**

$$\overline{X} = \frac{\sum X}{n} \qquad \overline{X} = \frac{\sum X}{n} = \frac{1062}{12} = 88.50$$

Mean in frequency distribution = **88.50**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	f_ix_i
1	87-87	86.5-87.5	2	87	174
2	88-88	87.5-88.5	4	88	352
3	89-89	88.5-89.5	4	89	356
4	90-90	89.5-90.5	2	90	180
			12	354	1062

$$\overline{X} = \frac{\sum f_i X_i}{n} \qquad \overline{X} = \frac{\sum f_i X_i}{n} = \frac{1062}{12} = 88.50$$

Mean in frequency distribution = **88.50**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	c_i	f_ic_i	
1	87-87	86.5-87.5	2	87	-2	-4	
2	88-88	87.5-88.5	4	88	-1	-4	
3	89-89	88.5-89.5	4	89	0	0	Mean Class
4	90-90	89.5-90.5	2	90	1	2	
			12	354	-2	-6	

$$\overline{X} = X_o + i\left[\frac{\sum f_i c_i}{\sum f_i}\right] \qquad \overline{X} = 89 + 1\left[\frac{(-6)}{12}\right] = 88.50$$

b) MODE

Mode in individual data = **88.00**

Mode in frequency distribution = **88.50**

No	Class Limit	Class Boundaries	Frequency f_i	
1	87-87	86.5-87.5	2	
2	88-88	87.5-88.5	4	Mode Class
3	89-89	88.5-89.5	4	
4	90-90	89.5-90.5	2	
			12	

$$Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) \qquad Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) = 87.5 + 1\left(\frac{(4-2)}{(4-2)+(4-4)}\right) = 88.50$$

c) MEDIAN

Median in individual data = **88.50**

Median in frequency distribution = **88.50**

No	Class Limit	Class Boundaries	Frequency f_i	
1	87-87	86.5-87.5	2	
2	88-88	87.5-88.5	4	
3	89-89	88.5-89.5	4	Median Class
4	90-90	89.5-90.5	2	
			12	

$$Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) \qquad Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) = 88.5 + 1\left(\frac{\frac{12}{2} - (2+4)}{4}\right) = 88.50$$

d) STANDARD DEVIATION

Standard deviation in individual data = **1.00**

Standard deviation in frequency distribution = **1.00**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	X_i^2	f_iX_i	$f_iX_i^2$
1	87-87	86.5-87.5	2	87	7569	174	15138
2	88-88	87.5-88.5	4	88	7744	352	30976
3	89-89	88.5-89.5	4	89	7921	356	31684
4	90-90	89.5-90.5	2	90	8100	180	16200
			12	354	31334	1062	93998

$$s = \sqrt{\frac{\sum f_i {X_i}^2 - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} \qquad s = \sqrt{\frac{\sum f_i {X_i}^2 - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} = \sqrt{\frac{93998 - \frac{(1062)^2}{12}}{12-1}} = 1.00$$

Standard deviation in frequency distribution = 1.00

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	c_i	c_i^2	f_ic_i	$f_ic_i^2$	
1	87-87	86.5-87.5	2	87	-2	4	-4	8	
2	88-88	87.5-88.5	4	88	-1	1	-4	4	
3	89-89	88.5-89.5	4	89	0	0	0	0	V
4	90-90	89.5-90.5	2	90	1	1	2	2	
			12	354	-2	6	-6	14	

$$s = \sqrt{i\left[\frac{\sum f_i {c_i}^2 - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} \qquad s = \sqrt{i\left[\frac{\sum f_i {c_i}^2 - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} = \sqrt{1\left[\frac{(14) - \frac{(-6)^2}{12}}{12-1}\right]} = 1.00$$

Appendix 3.1.6

Data Description for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Quantum Method (A_2B_2)

1. The Working Table for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Quantum Method (A_1B_2)

No	Code	Creativity	Criteria	Writing	Criteria
1	8B - 10	70	Low	78	Low
2	8B - 18	73	Low	78	Low
3	8B - 20	73	Low	78	Low
4	8B - 23	73	Low	79	Low
5	8B - 6	73	Low	79	Low
6	8B - 24	73	Low	80	Low
7	8B - 21	77	Low	81	Low
8	8B - 5	77	Low	82	Low
9	8B - 17	77	Low	83	Low
10	8B - 14	77	Low	83	Low
11	8B - 13	77	Low	84	Low
12	8B - 19	77	Low	85	Low
	Sum	897	High	**970**	High
	Mean	74.75	0	**80.83**	0
	Max	77	Low	**85**	Low
	Min	70	12	**78**	12
	Range	7	Mode	7	Mode
	Class	4.56	77.00	4.56	78.00
	Interval	1.53	Median	1.53	Median
	Stdev	2.49	75.00	2.52	80.50

2. *The Data Information for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Quantum Method (A_1B_2)*

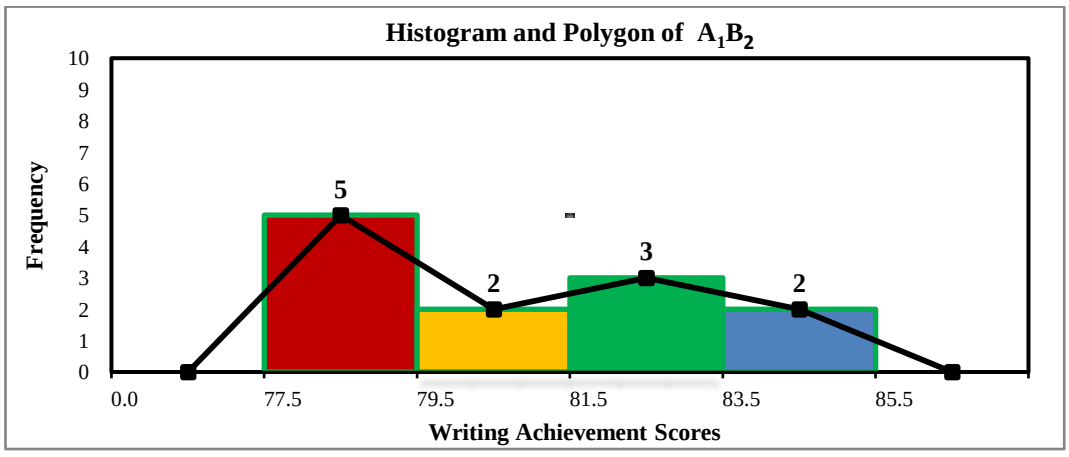
Based on the working table for the writing scores of the students having low CQ whoare taught by using using Quantum method (A_1B_2) above

- Number of respondents (n) : **12**
- The highest score : **85**
- The lowest score : **78**
- The total score : **970**
- The range : The highest score – The lowest score
  = 85 – 78 = **7**
- The number of class : 1 + 3.3(log n) = 1 + 3.3(log 12)
  = 1 + 3.3 (1.08) = 4.56 (**4** is used)
- The class width (interval) : The range : The number of class
  = 7 : 4 = 1.75 **(2** is used)

3. *The Table of Frequency Distribution for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Quantum Method (A_1B_2)*

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	f_ix_i	Percentage %
1	78-79	77.5-79.5	~~IIII~~	5	78.5	392.5	40.46%
2	80-81	79.5-81.5	II	2	80.5	161.0	16.60%
3	82-83	81.5-83.5	III	3	82.5	247.5	25.52%
4	84-85	83.5-85.5	II	2	84.5	169.0	17.42%
				12	326.0	970.0	100.00%

4. *The Histogram and Polygon of the Frequency Distribution for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Quantum Method (A_1B_2)*



5. The Result of Data in the Frequency Distribution for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Quantum Method (A_1B_2)

a) MEAN

Mean in individual data = **80.83**

$$\overline{X} = \frac{\sum X}{n} \qquad \overline{X} = \frac{\sum X}{n} = \frac{970}{12} = 80.83$$

Mean in frequency distribution = **80.83**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	f_ix_i
1	78-79	77.5-79.5	5	78.5	392.5
2	80-81	79.5-81.5	2	80.5	161.0
3	82-83	81.5-83.5	3	82.5	247.5
4	84-85	83.5-85.5	2	84.5	169.0
			12	326.0	970.0

$$\overline{X} = \frac{\sum f_i X_i}{n} \qquad \overline{X} = \frac{\sum f_i X_i}{n} = \frac{970}{12} = 80.83$$

Mean in frequency distribution = **80.83**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	c_i	f_ic_i	
1	78-79	77.5-79.5	5	78.5	0	0	Mean Class
2	80-81	79.5-81.5	2	80.5	1	2	(Highest f_i)
3	82-83	81.5-83.5	3	82.5	2	6	
4	84-85	83.5-85.5	2	84.5	3	6	
			12	326.0	6	14	

$$\overline{X} = X_o + i\left[\frac{\sum f_i c_i}{\sum f_i}\right] \qquad \overline{X} = 78.5 + 2\left[\frac{14}{12}\right] = 80.83$$

b) MODE

Mode in individual data = **78.00**

Mode in frequency distribution = **78.75**

No	Class Limit	Class Boundaries	Frequency f_i	
1	78-79	77.5-79.5	5	Mode Class
2	80-81	79.5-81.5	2	
3	82-83	81.5-83.5	3	
4	84-85	83.5-85.5	2	
			12	

$$Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) \qquad Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) = 77.5 + 2\left(\frac{(5-0)}{(5-0)+(5-2)}\right) = 78.75$$

c) MEDIAN

Median in individual data = **80.50**

Median in frequency distribution = **80.50**

No	Class Limit	Class Boundaries	Frequency f_i	
1	78-79	77.5-79.5	5	
2	80-81	79.5-81.5	2	Median Class
3	82-83	81.5-83.5	3	
4	84-85	83.5-85.5	2	
			12	

$$Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) \qquad Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) = 79.5 + 2\left(\frac{\frac{12}{2} - (5)}{2}\right) = 80.50$$

d) STANDARD DEVIATION

Standard deviation in individual data = **2.52**

Standard deviation in frequency distribution = **2.39**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	X_i^2	f_iX_i	$f_iX_i^2$
1	78-79	77.5-79.5	5	78.5	6162	393	30811
2	80-81	79.5-81.5	2	80.5	6480	161	12961
3	82-83	81.5-83.5	3	82.5	6806	248	20419
4	84-85	83.5-85.5	2	84.5	7140	169	14281
			12	326.0	26589	970	78471

$$s = \sqrt{\frac{\sum f_i {X_i}^2 - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} \qquad s = \sqrt{\frac{\sum f_i {X_i}^2 - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} = \sqrt{\frac{78471 - \frac{(970)^2}{12}}{12-1}} = 2.39$$

Standard deviation in frequency distribution = **2.39**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	c_i	c_i^2	f_ic_i	$f_ic_i^2$
1	78-79	77.5-79.5	5	78.5	0	0	0	0
2	80-81	79.5-81.5	2	80.5	1	1	2	2
3	82-83	81.5-83.5	3	82.5	2	4	6	12
4	84-85	83.5-85.5	2	84.5	3	9	6	18
			12	326.0	6	14	14	32

V

$$s = \sqrt{i\left[\frac{\sum f_i {c_i}^2 - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} \qquad s = \sqrt{i\left[\frac{\sum f_i {c_i}^2 - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} = \sqrt{2\left[\frac{(32) - \frac{(14)^2}{12}}{12-1}\right]} = 2.39$$

Appendix 3.1.7

Data Description for the Writing Scores of the Students Having High CQ Who Were Taught by Using Direct Instruction Method (A_2B_1)

1. The Working Table for the Writing Scores of the Students Having High CQ Who Were Taught by Using Direct Instruction Method (A_2B_1)

No	Code	Creativity	Criteria	Writing	Criteria
1	8C - 24	80	High	77	Low
2	8C - 3	80	High	78	Low
3	8C - 20	80	High	78	Low
4	8C - 14	80	High	79	Low
5	8C - 12	80	High	80	Low
6	8C - 11	83	High	80	Low
7	8C - 1	80	High	81	Low
8	8C - 19	83	High	81	Low
9	8C - 17	87	High	83	High
10	8C - 18	87	High	83	High
11	8C - 21	87	High	84	High
12	8C - 10	90	High	85	High
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
	Sum	997	High	**969**	High
	Mean	83.08	12	**80.75**	4
	Max	90	Low	**85**	Low
	Min	80	0	**77**	8
	Range	10	Mode	8	Mode
	Class	4.56	80.00	4.56	78.00
	Interval	2.19	Median	1.75	Median
	Stdev	3.70	81.50	2.56	80.50

2. *The Data Information for the Writing Scores of the Students Having High CQ Who Were Taught by Using Direct Instruction Method (A_2B_1)*

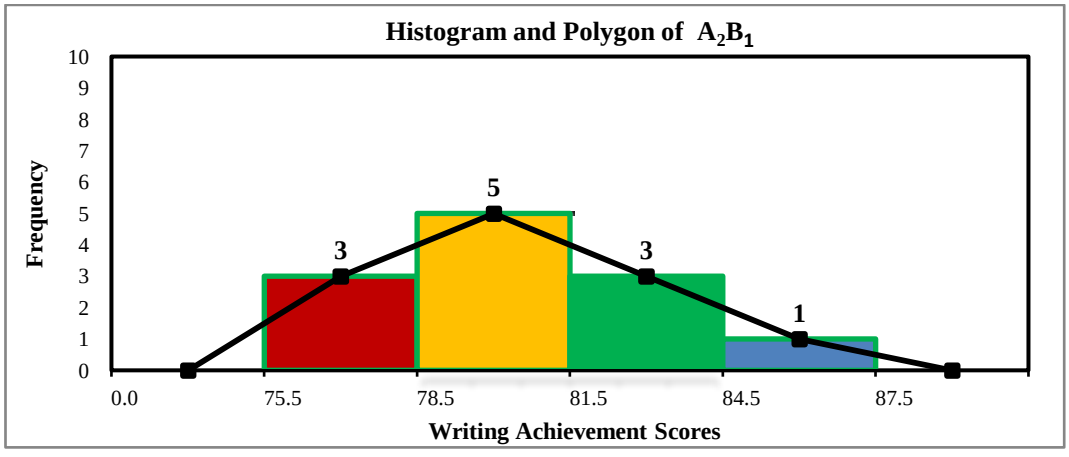
Based on the working table for the writing scores of the students having high CQ whoare taught by using Direct Instruction method (A_2B_1) above

- Number of respondents (n) : **12**
- The highest score : **85**
- The lowest score : **77**
- The total score : **969**
- The range : The highest score – The lowest score
  = 85 – 77 = **8**
- The number of class : 1 + 3.3(log n) = 1 + 3.3(log 12)
  = 1 + 3.3 (1.08) = 4.56 (**4** is used)
- The class width (interval) : The range : The number of class
  = 8 : 4 = 2.00 **(3** is used)

3. *The Table of Frequency Distribution for the Writing Scores of the Students Having High CQ Who Were Taught by Using Direct Instruction Method (A_2B_1)*

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	f_ix_i	Percentage %
1	76-78	75.5-78.5	III	3	77	231	23.91%
2	79-81	78.5-81.5	~~IIII~~	5	80	400	41.41%
3	82-84	81.5-84.5	III	3	83	249	25.78%
4	85-87	84.5-87.5	I	1	86	86	8.90%
				12	326	966	100.00%

4. *The Histogram and Polygon of the Frequency Distribution for the Writing Scores of the Students Having High CQ Who Were Taught by Using Direct Instruction Method (A_2B_1)*



5. The Result of Data in the Frequency Distribution for the Writing Scores of the Students Having High CQ Who Were Taught by Using Direct Instruction Method (A_2B_1)

a) MEAN

Mean in individual data = **80.75**

$$\overline{X} = \frac{\sum X}{n} \qquad \overline{X} = \frac{\sum X}{n} = \frac{969}{12} = 80.75$$

Mean in frequency distribution = **80.50**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	$f_i x_i$
1	76-78	76.5-78.5	3	77	231
2	79-81	78.5-79.5	5	80	400
3	82-84	80.5-81.5	3	83	249
4	85-87	82.5-83.5	1	86	86
			12	326	966

$$\overline{X} = \frac{\sum f_i X_i}{n} \qquad \overline{X} = \frac{\sum f_i X_i}{n} = \frac{966}{12} = 80.50$$

Mean in frequency distribution = **80.50**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	c_i	$f_i c_i$	
1	76-78	76.5-78.5	3	-1	-3	-1	
2	79-81	78.5-79.5	5	0	0	0	Mean Class
3	82-84	80.5-81.5	3	1	3	1	
4	85-87	82.5-83.5	1	2	2	2	
			12	2	2	2	

$$\overline{X} = X_o + i\left[\frac{\sum f_i c_i}{\sum f_i}\right] \qquad \overline{X} = 78.5 + 2\left[\frac{2}{12}\right] = 80.50$$

b) MODE

Mode in individual data = **78.00**

Mode in frequency distribution = **80.00**

No	Class Limit	Class Boundaries	Frequency f_i	
1	76-78	76.5-78.5	3	
2	79-81	78.5-79.5	5	Mode Class
3	82-84	80.5-81.5	3	
4	85-87	82.5-83.5	1	
			12	

$$Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) \qquad Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) = 78.5 + 2\left(\frac{(5-3)}{(5-3)+(5-3)}\right) = 80.00$$

c) MEDIAN

Median in individual data = **80.50**

Median in frequency distribution = **80.30**

No	Class Limit	Class Boundaries	Frequency f_i	
1	76-78	76.5-78.5	3	
2	79-81	78.5-79.5	5	Median Class
3	82-84	80.5-81.5	3	
4	85-87	82.5-83.5	1	
			12	

$$Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) \qquad Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) = 78.5 + 3\left(\frac{\frac{12}{2} - (3)}{5}\right) = 80.30$$

d) STANDARD DEVIATION

Standard deviation in individual data = **2.56**

Standard deviation in frequency distribution = **2.81**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	X_i^2	f_iX_i	$f_iX_i^2$
1	76-78	76.5-78.5	3	77	5929	231	17787
2	79-81	78.5-79.5	5	80	6400	400	32000
3	82-84	80.5-81.5	3	83	6889	249	20667
4	85-87	82.5-83.5	1	86	7396	86	7396
			12	326	26614	966	77850

$$s = \sqrt{\frac{\sum f_i {X_i}^2 - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} \qquad s = \sqrt{\frac{\sum f_i {X_i}^2 - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} = \sqrt{\frac{77850 - \frac{(966)^2}{12}}{12-1}} = 2.81$$

Standard deviation in frequency distribution = **2.81**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	c_i	c_i^2	f_ic_i	$f_ic_i^2$
1	76-78	76.5-78.5	3	77	-2	4	-8	16
2	79-81	78.5-79.5	5	80	-1	1	-2	2
3	82-84	80.5-81.5	3	83	0	0	0	0
4	85-87	82.5-83.5	1	86	1	1	2	2
					2	4	4	8
			12	326	0	10	-4	28

V

$$s = \sqrt{i\left[\frac{\sum f_i {c_i}^2 - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} \qquad s = \sqrt{i\left[\frac{\sum f_i {c_i}^2 - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} = \sqrt{2\left[\frac{(28) - \frac{(-4)^2}{12}}{12-1}\right]} = 2.81$$

Appendix 3.1.8

Data Description for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Direct Instruction Method (A_2B_2)

1. The Working Table for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Direct Instruction Method (A_2B_2)

No	Code	Creativity	Criteria	Writing	Criteria
1	8C - 16	70	Low	80	Low
2	8C - 15	70	Low	81	Low
3	8C - 22	73	Low	82	Low
4	8C - 8	77	Low	82	Low
5	8C - 2	73	Low	84	High
6	8C - 9	77	Low	84	High
7	8C - 5	73	Low	85	High
8	8C - 6	73	Low	85	High
9	8C - 7	73	Low	85	High
10	8C - 4	73	Low	86	High
11	8C - 13	77	Low	87	High
12	8C - 23	77	Low	88	High
	Sum	886	High	**1009**	High
	Mean	73.83	0	**84.08**	8
	Max	77	Low	**88**	Low
	Min	70	12	**80**	4
	Range	7	Mode	8	Mode
	Class	4.56	73.00	4.56	85.00
	Interval	1.53	Median	1.75	Median
	Stdev	2.59	73.00	2.43	84.50

2. The Data Information for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Direct Instruction Method (A_2B_2)

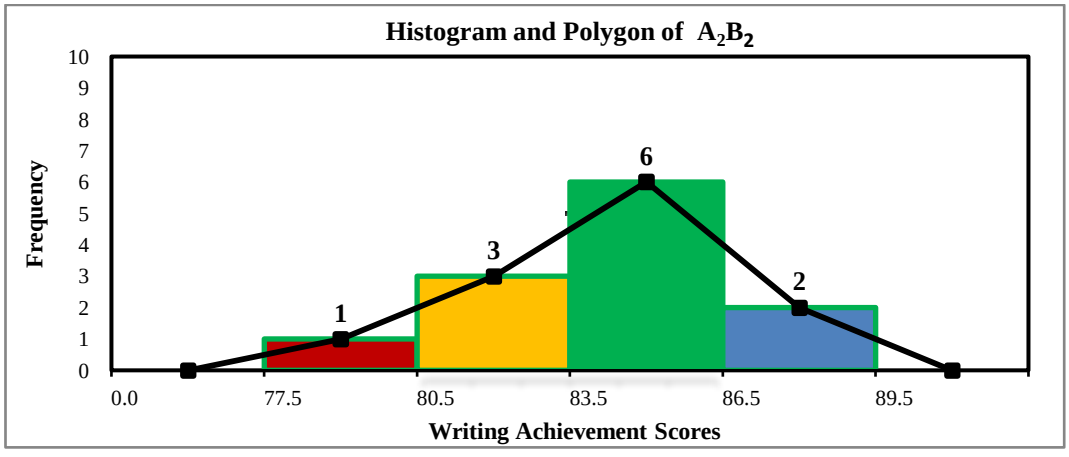
Based on the working table for the writing scores of the students having low CQ whoare taught by using Direct Instruction method (A_2B_2) above

- Number of respondents (n) : **12**
- The highest score : **88**
- The lowest score : **80**
- The total score : **1009**
- The range : The highest score – The lowest score
  = 88 – 80 = **8**
- The number of class : 1 + 3.3(log n) = 1 + 3.3(log 12)
  = 1 + 3.3 (1.08) = 4.56 (**4** is used)
- The class width (interval) : The range : The number of class
  = 8 : 4 = **2.00** (**3** is used)

3. The Table of Frequency Distribution for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Direct Instruction Method (A_2B_2)

No	Class Limit	Class Boundaries	Tally	Frequency f_i	Midpoint x_i	f_ix_i	Percentage %
1	78-80	77.5-80.5	I	1	79	79	7.81%
2	81-83	80.5-83.5	III	3	82	246	24.33%
3	84-86	83.5-86.5	~~IIII~~ I	6	85	510	50.45%
4	87-89	86.5-89.5	II	2	88	176	17.41%
				12	334	1011	100.00%

4. The Histogram and Polygon of the Frequency Distribution for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Direct Instruction Method (A_2B_2)



5. The Result of Data in the Frequency Distribution for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Direct Instruction Method (A_2B_2)

a) MEAN

Mean in individual data = **84.08**

$$\overline{X} = \frac{\sum X}{n} \qquad \overline{X} = \frac{\sum X}{n} = \frac{1009}{12} = 84.08$$

Mean in frequency distribution = **84.25**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	$f_i x_i$
1	78-80	77.5-80.5	1	79	79
2	81-83	80.5-83.5	3	82	246
3	84-86	83.5-86.5	6	85	510
4	87-89	86.5-89.5	2	88	176
			12	334	1011

$$\overline{X} = \frac{\sum f_i X_i}{n} \qquad \overline{X} = \frac{\sum f_i X_i}{n} = \frac{1011}{12} = 84.25$$

Mean in frequency distribution = **84.25**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint x_i	c_i	$f_i c_i$	
1	78-80	77.5-80.5	1	79	-2	-2	
2	81-83	80.5-83.5	3	82	-1	-3	
3	84-86	83.5-86.5	6	85	0	0	Mean Class
4	87-89	86.5-89.5	2	88	1	2	
			12	334	-2	-3	

$$\overline{X} = X_o + i\left[\frac{\sum f_i c_i}{\sum f_i}\right] \qquad \overline{X} = 85 + 2\left[\frac{-3}{12}\right] = 84.25$$

b) MODE

Mode in individual data = **85.00**

Mode in frequency distribution = **84.79**

No	Class Limit	Class Boundaries	Frequency f_i	
1	78-80	77.5-80.5	1	
2	81-83	80.5-83.5	3	
3	84-86	83.5-86.5	6	Mode Class
4	87-89	86.5-89.5	2	
			12	

$$Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) \qquad Mo = L + i\left(\frac{f_1}{f_1 + f_2}\right) = 83.5 + 3\left(\frac{(6-3)}{(6-3)+(6-2)}\right) = 84.79$$

c) MEDIAN

Median in individual data = **84.50**

Median in frequency distribution = **84.50**

No	Class Limit	Class Boundaries	Frequency f_i	
1	78-80	77.5-80.5	1	
2	81-83	80.5-83.5	3	
3	84-86	83.5-86.5	6	Median Class
4	87-89	86.5-89.5	2	
			12	

$$Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) \qquad Me = L + i\left(\frac{\frac{n}{2} - cfb}{fw}\right) = 83.5 + 3\left(\frac{\frac{12}{2} - (1+3)}{6}\right) = 84.50$$

d) STANDARD DEVIATION

Standard deviation in individual data = **2.43**

Standard deviation in frequency distribution = **2.60**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	X_i^2	f_iX_i	$f_iX_i^2$
1	78-80	77.5-80.5	1	79	6241	79	6241
2	81-83	80.5-83.5	3	82	6724	246	20172
3	84-86	83.5-86.5	6	85	7225	510	43350
4	87-89	86.5-89.5	2	88	7744	176	15488
			12	334	27934	1011	85251

$$s = \sqrt{\frac{\sum f_i X_i^{\,2} - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} \qquad s = \sqrt{\frac{\sum f_i X_i^{\,2} - \frac{\left(\sum f_i X_i\right)^2}{n}}{n-1}} = \sqrt{\frac{85251 - \frac{(1011)^2}{12}}{12-1}} = 2.60$$

Standard deviation in frequency distribution = **2.60**

No	Class Limit	Class Boundaries	Frequency f_i	Midpoint X_i	c_i	c_i^2	f_ic_i	$f_ic_i^2$	
1	78-80	77.5-80.5	1	79	-2	4	-2	4	
2	81-83	80.5-83.5	3	82	-1	1	-3	3	
3	84-86	83.5-86.5	6	85	0	0	0	0	V
4	87-89	86.5-89.5	2	88	1	1	2	2	
			12	334	-2	6	-3	9	

$$s = \sqrt{i\left[\frac{\sum f_i c_i^{\,2} - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} \qquad s = \sqrt{i\left[\frac{\sum f_i c_i^{\,2} - \frac{\left(\sum f_i c_i\right)^2}{n}}{n-1}\right]} = \sqrt{3\left[\frac{(9) - \frac{(-3)^2}{12}}{12-1}\right]} = 2.60$$

The Data of Descriptive Statistics

No	Groups	n	Total	Max	Min	Range	Class	Interval
1	A_1	24	2032	90	78	12	5	3
2	A_2	24	1978	88	77	11	5	3
3	B_1	24	2031	90	77	13	5	3
4	B_2	24	1979	88	78	10	5	2
5	A_1B_1	12	1062	90	87	3	4	1
6	A_1B_2	12	970	85	78	7	4	2
7	A_2B_1	12	969	85	77	8	4	3
8	A_2B_2	12	1009	88	80	8	4	3

The Summary of Descriptive Statistics

NO	Data		1	2	3	4	5	6	7	8
			A_1	A_2	B_1	B_2	A_1B_1	A_1B_2	A_2B_1	A_2B_2
1	Respondents	n	24	24	24	24	12	12	12	12
2	Score	Total	2032	1978	2031	1979	1062	970	969	1009
		Highest	90	88	90	88	90	85	85	88
		Lowest	78	77	77	78	87	78	77	80
		Range	12	11	13	10	3	7	8	8
3	Class	Result	5.55	5.55	5.55	5.55	4.56	4.56	4.56	4.56
		Decision	5	5	5	5	4	4	4	4
4	Interval	Result	2.4	2.20	2.60	2.00	0.75	1.75	2.00	2.00
		Decision	3	3	3	2	1	2	3	3
5	Mean	ID	84.67	82.42	84.63	82.46	88.50	80.83	80.75	84.08
		FD 1	84.63	82.50	84.75	80.17	88.50	80.83	80.50	84.25
		FD 2	84.63	82.50	84.75	80.17	88.50	80.83	80.50	84.25
6	Mode	ID	88.00	85.00	88.00	85.00	88.00	78.00	78.00	85.00
		FD	88.50	83.93	88.50	80.50	88.50	78.75	80.00	84.79
7	Median	ID	86.00	82.50	86.00	82.50	88.50	80.50	80.50	84.50
		FD	85.50	82.64	85.50	80.25	88.50	80.50	80.30	84.50
8	Standar Deviation	ID	4.34	2.98	4.39	2.93	1.00	2.52	2.56	2.43
		FD 1	4.51	3.15	4.36	2.18	1.00	2.39	2.81	2.60
		FD 2	4.51	3.15	4.36	2.18	1.00	2.39	2.81	2.60

Note:
ID = as individual data
FD = in frequency distribution

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APPENDIX 3
STATISTICAL COMPUTATION

3.2

THE EFFECTIVENESS OF QUANTUM METHOD
TO TEACH WRITING VIEWED FROM STUDENTS' CREATIVITY
An Experimental Research to the Eighth Grade Students of SMP N 1 Bulukerto
in the 2011/2012 Academic Year

The Prerequisite Tests

ENGLISH DEPARTMENT
GRADUATE SCHOOL
SEBELAS MARET UNIVERSITY
2013

Appendix 3.2.1

The Normality Test for the Writing Scores of the Students Who Were Taught by Using Quantum Method (A_1)

1. The Working Table for the Writing Scores of the Students Who Were Taught by Using Quantum Method (A_1)

NO	Code	X_i	$(X_i)^2$	z_i	Abs	TABEL	$F(z_i)$	Rank	$S(z_i)$	$\lvert F(z_i)-S(z_i) \rvert$
1	8B - 10	**78**	6084	-1.54	1.54	0.4370	0.0630	3	0.1250	0.0620
2	8B - 18	**78**	6084	-1.54	1.54	0.4370	0.0630	3	0.1250	0.0620
3	8B - 20	**78**	6084	-1.54	1.54	0.4370	0.0630	3	0.1250	0.0620
4	8B - 23	**79**	6241	-1.31	1.31	0.4032	0.0968	5	0.2083	0.1115
5	8B - 6	**79**	6241	-1.31	1.31	0.4032	0.0968	5	0.2083	0.1115
6	8B - 24	**80**	6400	-1.08	1.08	0.3577	0.1423	6	0.2500	0.1077
7	8B - 21	**81**	6561	-0.84	0.84	0.2995	0.2005	7	0.2917	0.0912
8	8B - 5	**82**	6724	-0.61	0.61	0.2291	0.2709	8	0.3333	0.0624
9	8B - 17	**83**	6889	-0.38	0.38	0.1480	0.3520	10	0.4167	0.0647
10	8B - 14	**83**	6889	-0.38	0.38	0.1480	0.3520	10	0.4167	0.0647
11	8B - 13	**84**	7056	-0.15	0.15	0.0596	0.4404	11	0.4583	0.0179
12	8B - 19	**85**	7225	0.08	0.08	0.0279	0.4721	12	0.5000	0.0279
13	8B - 3	**87**	7569	0.54	0.54	0.2019	0.7019	14	0.5833	**0.1186**
14	8B - 7	**87**	7569	0.54	0.54	0.2019	0.7019	14	0.5833	**0.1186**
15	8B - 2	**88**	7744	0.77	0.77	0.2764	0.7764	18	0.7500	0.0264
16	8B - 11	**88**	7744	0.77	0.77	0.2764	0.7764	18	0.7500	0.0264
17	8B - 12	**88**	7744	0.77	0.77	0.2764	0.7764	18	0.7500	0.0264
18	8B - 15	**88**	7744	0.77	0.77	0.2764	0.7764	18	0.7500	0.0264
19	8B - 1	**89**	7921	1.00	1.00	0.3389	0.8389	22	0.9167	0.0778
20	8B - 4	**89**	7921	1.00	1.00	0.3389	0.8389	22	0.9167	0.0778
21	8B - 16	**89**	7921	1.00	1.00	0.3389	0.8389	22	0.9167	0.0778
22	8B - 22	**89**	7921	1.00	1.00	0.3389	0.8389	22	0.9167	0.0778
23	8B - 8	**90**	8100	1.23	1.23	0.3888	0.8888	24	1.0000	0.1112
24	8B - 9	**90**	8100	1.23	1.23	0.3888	0.8888	24	1.0000	0.1112
	Σ X	**2,032**	**172,476**	**0.00**					**L_o Max**	**0.1186**
	$\overline{X}$	**84.67**							**L_{table}**	**0.1730**
	n	**24**							**$L_o < L_t$**	
	s	**4.34**							**Normal**	

2. The Computation of Normality Test for the Writing Scores of the Students Who Were Taught by Using Quantum Method (A_1)

$$s = \sqrt{\frac{n\sum X^2 - \left(\sum X\right)^2}{(n)(n-1)}} = \sqrt{\frac{(24x172{,}476)}{24x(24-1)}} = 4.34 \qquad z_1 = \frac{X - \overline{X}}{s} = \frac{78 - 84.67}{4.34} = -1.54$$

$F(z_i)$ = 0.5 – / + Table Value ; $F(z_1)$ = 0.5 – 0.4370 = 0.0630. etc
$S(z_i)$ = Rank / number ; $S(Z_1)$ = 3 / 24 = 0.1250. etc.
Based on the table above L_o Max $\lvert F(z_i) - S(z_i) \rvert$ is **0.1186**
Since L_o (**0.1186**) < L_t (**0.1730**), H_o is accepted. The sample comes from **normal** population.

Appendix 3.2.2
The Normality Test for the Writing Scores of the Students Who Were Taught by Using Direct Instruction Method (A_2)

1) The Working Table for the Writing Scores of the Students Who Were Taught by Using Direct Instruction Method (A_2)

NO	Code	X_i	$(X_i)^2$	z_i	Abs	TABEL	$F(z_i)$	Rank	$S(z_i)$	$\lvert F(z_i)-S(z_i) \rvert$
1	8C - 24	**77**	5929	-1.82	1.82	0.4649	0.0351	1	0.0417	0.0066
2	8C - 3	**78**	6084	-1.48	1.48	0.4306	0.0694	3	0.1250	0.0556
3	8C - 20	**78**	6084	-1.48	1.48	0.4306	0.0694	3	0.1250	0.0556
4	8C - 14	**79**	6241	-1.15	1.15	0.3729	0.1271	4	0.1667	0.0396
5	8C - 16	**80**	6400	-0.81	0.81	0.2910	0.2090	7	0.2917	0.0827
6	8C - 12	**80**	6400	-0.81	0.81	0.2910	0.2090	7	0.2917	0.0827
7	8C - 11	**80**	6400	-0.81	0.81	0.2910	0.2090	7	0.2917	0.0827
8	8C - 15	**81**	6561	-0.48	0.48	0.1808	0.3192	10	0.4167	**0.0975**
9	8C - 1	**81**	6561	-0.48	0.48	0.1808	0.3192	10	0.4167	**0.0975**
10	8C - 19	**81**	6561	-0.48	0.48	0.1808	0.3192	10	0.4167	**0.0975**
11	8C - 22	**82**	6724	-0.14	0.14	0.0517	0.4483	12	0.5000	0.0517
12	8C - 8	**82**	6724	-0.14	0.14	0.0517	0.4483	12	0.5000	0.0517
13	8C - 17	**83**	6889	0.20	0.20	0.0753	0.5753	14	0.5833	0.0080
14	8C - 18	**83**	6889	0.20	0.20	0.0753	0.5753	14	0.5833	0.0080
15	8C - 2	**84**	7056	0.53	0.53	0.2019	0.7019	17	0.7083	0.0064
16	8C - 9	**84**	7056	0.53	0.53	0.2019	0.7019	17	0.7083	0.0064
17	8C - 21	**84**	7056	0.53	0.53	0.2019	0.7019	17	0.7083	0.0064
18	8C - 5	**85**	7225	0.87	0.87	0.3051	0.8051	21	0.8750	0.0699
19	8C - 6	**85**	7225	0.87	0.87	0.3051	0.8051	21	0.8750	0.0699
20	8C - 7	**85**	7225	0.87	0.87	0.3051	0.8051	21	0.8750	0.0699
21	8C - 10	**85**	7225	0.87	0.87	0.3051	0.8051	21	0.8750	0.0699
22	8C - 4	**86**	7396	1.20	1.20	0.3849	0.8849	22	0.9167	0.0318
23	8C - 13	**87**	7569	1.54	1.54	0.4370	0.9370	23	0.9583	0.0213
24	8C - 23	**88**	7744	1.88	1.88	0.4693	0.9693	24	1.0000	0.0307
	Σ X	**1,978**	**163,224**	**0.00**					**L_o Max**	**0.0975**
	$\overline{X}$	**82.42**							**L_{table}**	**0.1730**
	n	**24**							**$L_o < L_t$**	
	s	**2.98**							**Normal**	

2) The Computation of Normality Test for the Writing Scores of the Students Who Were Taught by Using Direct Instruction Method (A_2)

$$s = \sqrt{\frac{n\sum X^2 - \left(\sum X\right)^2}{(n)(n-1)}} = \sqrt{\frac{(24x163{,}224)}{24x(24-1)}} = 2.98 \qquad z_1 = \frac{X - \overline{X}}{s} = \frac{77 - 82.42}{2.98} = -1.82$$

$F(z_i)$ = 0.5 – / + Table Value ; $F(z_1)$ = 0.5 – 0.4649 = 0.0351. etc
$S(z_i)$ = Rank / number ; $S(Z_1)$ = 1 / 24 = 0.0417. etc.
Based on the table above L_o Max $\lvert F(z_i) - S(z_i) \rvert$ is **0.0975**
Since L_o (**0.0975**) < L_t (**0.1730**), H_o is accepted. The sample comes from **normal** population.

Appendix 3.2.3

The Normality Test for the Writing Scores of the Students Having High CQ (B_1)

1) The Working Table for the Writing Scores of the Students Having High CQ (B_1)

NO	Code	X_i	$(X_i)^2$	z_i	Abs	TABEL	$F(z_i)$	Rank	$S(z_i)$	$\lvert F(z_i)-S(z_i) \rvert$
1	8C-24	**77**	5929	-1.74	1.74	0.4582	0.0418	1	0.0417	0.0001
2	8C-3	**78**	6084	-1.51	1.51	0.4332	0.0668	3	0.1250	0.0582
3	8C-20	**78**	6084	-1.51	1.51	0.4332	0.0668	3	0.1250	0.0582
4	8C-14	**79**	6241	-1.28	1.28	0.3997	0.1003	4	0.1667	0.0664
5	8C-12	**80**	6400	-1.05	1.05	0.3531	0.1469	6	0.2500	0.1031
6	8C-11	**80**	6400	-1.05	1.05	0.3531	0.1469	6	0.2500	0.1031
7	8C-1	**81**	6561	-0.83	0.83	0.2939	0.2061	8	0.3333	**0.1272**
8	8C-19	**81**	6561	-0.83	0.83	0.2939	0.2061	8	0.3333	**0.1272**
9	8C-17	**83**	6889	-0.37	0.37	0.1443	0.3557	10	0.4167	0.0610
10	8C-18	**83**	6889	-0.37	0.37	0.1443	0.3557	10	0.4167	0.0610
11	8C-21	**84**	7056	-0.14	0.14	0.0557	0.4443	11	0.4583	0.0140
12	8C-10	**85**	7225	0.09	0.09	0.0319	0.4681	12	0.5000	0.0319
13	8B-3	**87**	7569	0.54	0.54	0.2054	0.7054	14	0.5833	0.1221
14	8B-7	**87**	7569	0.54	0.54	0.2054	0.7054	14	0.5833	0.1221
15	8B-2	**88**	7744	0.77	0.77	0.2764	0.7764	18	0.7500	0.0264
16	8B-11	**88**	7744	0.77	0.77	0.2764	0.7764	18	0.7500	0.0264
17	8B-12	**88**	7744	0.77	0.77	0.2764	0.7764	18	0.7500	0.0264
18	8B-15	**88**	7744	0.77	0.77	0.2764	0.7764	18	0.7500	0.0264
19	8B-1	**89**	7921	1.00	1.00	0.3389	0.8389	22	0.9167	0.0778
20	8B-4	**89**	7921	1.00	1.00	0.3389	0.8389	22	0.9167	0.0778
21	8B-16	**89**	7921	1.00	1.00	0.3389	0.8389	22	0.9167	0.0778
22	8B-22	**89**	7921	1.00	1.00	0.3389	0.8389	22	0.9167	0.0778
23	8B-8	**90**	8100	1.22	1.22	0.3888	0.8888	24	1.0000	0.1112
24	8B-9	**90**	8100	1.22	1.22	0.3888	0.8888	24	1.0000	0.1112
	Σ X	**2,031**	**172,317**	**0.00**					**L_o Max**	**0.1272**
	$\overline{X}$	**84.63**							**L_{table}**	**0.1730**
	n	**24**							**$L_o < L_t$**	
	s	**4.39**							**Normal**	

2) The Computation of Normality Test for the Writing Scores of the Students Having High CQ (B_1)

$$s = \sqrt{\frac{n\sum X^2 - \left(\sum X\right)^2}{(n)(n-1)}} = \sqrt{\frac{(24x172{,}317)}{24x(24-1)}} = 4.39 \qquad z_1 = \frac{X - \overline{X}}{s} = \frac{77 - 84.63}{4.39} = -1.74$$

$F(z_i)$ = 0.5 – / + Table Value ; $F(z_1)$ = 0.5 – 0.4582= 0.0418. etc

$S(z_i)$ = Rank / number ; $S(Z_1)$ = 1 / 24 = 0.0417. etc.

Based on the table above L_o Max $\lvert F(z_i) - S(z_i) \rvert$ is **0.1272**

Since L_o (**0.1272**) <L_t (**0.1730**), H_o is accepted. The sample comes from **normal** population.

Appendix 3.2.4

The Normality Test for the Writing Scores of the Students Having Low CQ (B_2)

1) The Working Table for the Writing Scores of the Students Having Low CQ (B_2)

NO	Code	X_i	$(X_i)^2$	z_i	Abs	TABEL	$F(z_i)$	Rank	$S(z_i)$	$\lvert F(z_i)-S(z_i) \rvert$
1	8B-10	**78**	6084	-1.52	1.52	0.4345	0.0655	3	0.1250	0.0595
2	8B-18	**78**	6084	-1.52	1.52	0.4345	0.0655	3	0.1250	0.0595
3	8B-20	**78**	6084	-1.52	1.52	0.4345	0.0655	3	0.1250	0.0595
4	8B-23	**79**	6241	-1.18	1.18	0.3790	0.1210	5	0.2083	0.0873
5	8B-6	**79**	6241	-1.18	1.18	0.3790	0.1210	5	0.2083	0.0873
6	8C-16	**80**	6400	-0.84	0.84	0.2967	0.2033	7	0.2917	**0.0884**
7	8B-24	**80**	6400	-0.84	0.84	0.2967	0.2033	7	0.2917	**0.0884**
8	8C-15	**81**	6561	-0.50	0.50	0.1879	0.3121	9	0.3750	0.0629
9	8B-21	**81**	6561	-0.50	0.50	0.1879	0.3121	9	0.3750	0.0629
10	8C-22	**82**	6724	-0.16	0.16	0.0596	0.4404	12	0.5000	0.0596
11	8B-5	**82**	6724	-0.16	0.16	0.0596	0.4404	12	0.5000	0.0596
12	8C-8	**82**	6724	-0.16	0.16	0.0596	0.4404	12	0.5000	0.0596
13	8B-17	**83**	6889	0.18	0.18	0.0714	0.5714	14	0.5833	0.0119
14	8B-14	**83**	6889	0.18	0.18	0.0714	0.5714	14	0.5833	0.0119
15	8C-2	**84**	7056	0.53	0.53	0.1985	0.6985	17	0.7083	0.0098
16	8B-13	**84**	7056	0.53	0.53	0.1985	0.6985	17	0.7083	0.0098
17	8C-9	**84**	7056	0.53	0.53	0.1985	0.6985	17	0.7083	0.0098
18	8C-5	**85**	7225	0.87	0.87	0.3051	0.8051	21	0.8750	0.0699
19	8C-6	**85**	7225	0.87	0.87	0.3051	0.8051	21	0.8750	0.0699
20	8C-7	**85**	7225	0.87	0.87	0.3051	0.8051	21	0.8750	0.0699
21	8B-19	**85**	7225	0.87	0.87	0.3051	0.8051	21	0.8750	0.0699
22	8C-4	**86**	7396	1.21	1.21	0.3849	0.8849	22	0.9167	0.0318
23	8C-13	**87**	7569	1.55	1.55	0.4382	0.9382	23	0.9583	0.0201
24	8C-23	**88**	7744	1.89	1.89	0.4699	0.9699	24	1.0000	0.0301
	Σ X	**1,979**	**163,383**	**0.00**					**L_o Max**	**0.0884**
	$\overline{X}$	**82.46**							**L_{table}**	**0.1730**
	n	**24**							**$L_o < L_t$**	
	s	**2.93**							**Normal**	

2) The Computation of the Normality Test for the Writing Scores of the Students Having Low CQ (B_2)

$$s = \sqrt{\frac{n\sum X^2 - \left(\sum X\right)^2}{(n)(n-1)}} = \sqrt{\frac{(24x163{,}383)}{24x(24-1)}} = 2.93 \qquad z_1 = \frac{X - \overline{X}}{s} = \frac{78 - 82.46}{2.93} = -1.52$$

$F(z_i)$ = 0.5 – / + Table Value ; $F(z_1)$ = 0.5 – 0.4345 = 0.0655. etc

$S(z_i)$ = Rank / number ; $S(Z_1)$ = 3 / 24 = 0.1250. etc.

Based on the table above L_o Max $\lvert F(z_i) - S(z_i) \rvert$ is **0.0884**

Since L_o (**0.0884**) < L_t (**0.1730**), H_o is accepted. The sample comes from **normal** population.

Appendix 3.2.5
The Normality Test for the Writing Scores of the Students Having High CQ Who Were Taught by Using Quantum Method (A_1B_1)

1) ***The Working Table for the Writing Scores of the Students Having High CQ Who Were Taught by Using Quantum Method (A_1B_1)***

NO	Code	X_i	$(X_i)^2$	z_i	Abs	TABEL	$F(z_i)$	Rank	$S(z_i)$	$\lvert F(z_i)-S(z_i) \rvert$
1	8B-3	**87**	7569	-1.50	1.50	0.4332	0.0668	2	0.1667	0.0999
2	8B-7	**87**	7569	-1.50	1.50	0.4332	0.0668	2	0.1667	0.0999
3	8B-2	**88**	7744	-0.50	0.50	0.1915	0.3085	6	0.5000	**0.1915**
4	8B-11	**88**	7744	-0.50	0.50	0.1915	0.3085	6	0.5000	**0.1915**
5	8B-12	**88**	7744	-0.50	0.50	0.1915	0.3085	6	0.5000	**0.1915**
6	8B-15	**88**	7744	-0.50	0.50	0.1915	0.3085	6	0.5000	**0.1915**
7	8B-1	**89**	7921	0.50	0.50	0.1915	0.6915	10	0.8333	0.1418
8	8B-4	**89**	7921	0.50	0.50	0.1915	0.6915	10	0.8333	0.1418
9	8B-16	**89**	7921	0.50	0.50	0.1915	0.6915	10	0.8333	0.1418
10	8B-22	**89**	7921	0.50	0.50	0.1915	0.6915	10	0.8333	0.1418
11	8B-8	**90**	8100	1.50	1.50	0.4332	0.9332	12	1.0000	0.0668
12	8B-9	**90**	8100	1.50	1.50	0.4332	0.9332	12	1.0000	0.0668
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
	Σ X	**1,062**	**93,998**	**0.00**					**L_o Max**	**0.1915**
	$\overline{X}$	**88.50**							**L_{table}**	**0.2420**
	n	**12**							**$L_o < L_t$**	
	s	**1.00**							**Normal**	

2) ***The Computation of the Normality Test for the Writing Scores of the Students Having High CQ Who Were Taught by Using Quantum Method (A_1B_1)***

$$s = \sqrt{\frac{n\sum X^2 - \left(\sum X\right)^2}{(n)(n-1)}} = \sqrt{\frac{(12x93{,}998)}{12x(12-1)}} = 1.00 \qquad z_1 = \frac{X - \overline{X}}{s} = \frac{87 - 88.50}{1.00} = -1.50$$

$F(z_i)$ = 0.5 – / + Table Value ; $F(z_1)$ = 0.5 – 0.4332 = 0.668. etc
$S(z_i)$ = Rank / number ; $S(Z_1)$ = 2 / 12 = 0.1667. etc.
Based on the table above L_o Max $\lvert F(z_i) - S(z_i) \rvert$ is **0.1915**
Since L_o (**0.1915**) $< L_t$ (**0.2420**), H_o is accepted. The sample comes from **normal** population.

Appendix 3.2.6
The Normality Test for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Quantum Method (A_1B_2)

1) The Working Table for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Quantum Method (A_1B_2)

NO	Code	X_i	$(X_i)^2$	z_i	Abs	TABEL	$F(z_i)$	Rank	$S(z_i)$	$\lvert F(z_i)-S(z_i) \rvert$
1	8B-10	**78**	6084	-1.13	1.13	0.3686	0.1314	3	0.2500	0.1186
2	8B-18	**78**	6084	-1.13	1.13	0.3686	0.1314	3	0.2500	0.1186
3	8B-20	**78**	6084	-1.13	1.13	0.3686	0.1314	3	0.2500	0.1186
4	8B-23	**79**	6241	-0.73	0.73	0.2642	0.2358	5	0.4167	**0.1809**
5	8B-6	**79**	6241	-0.73	0.73	0.2642	0.2358	5	0.4167	**0.1809**
6	8B-24	**80**	6400	-0.33	0.33	0.1293	0.3707	6	0.5000	0.1293
7	8B-21	**81**	6561	0.07	0.07	0.0239	0.5239	7	0.5833	0.0594
8	8B-5	**82**	6724	0.46	0.46	0.1772	0.6772	8	0.6667	0.0105
9	8B-17	**83**	6889	0.86	0.86	0.3051	0.8051	10	0.8333	0.0282
10	8B-14	**83**	6889	0.86	0.86	0.3051	0.8051	10	0.8333	0.0282
11	8B-13	**84**	7056	1.26	1.26	0.3944	0.8944	11	0.9167	0.0223
12	8B-19	**85**	7225	1.66	1.66	0.4505	0.9505	12	1.0000	0.0495
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
	Σ X	**970**	**78,478**	**0.00**					**L_o Max**	**0.1809**
	$\overline{X}$	**80.83**							**L_{table}**	**0.2420**
	n	**12**							**$L_o < L_t$**	
	s	**2.52**							**Normal**	

2) The Computation of the Normality Test for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Quantum Method (A_1B_2)

$$s = \sqrt{\frac{n\sum X^2 - \left(\sum X\right)^2}{(n)(n-1)}} = \sqrt{\frac{(12x78{,}478)}{12x(12-1)}} = 2.52 \qquad z_1 = \frac{X - \overline{X}}{s} = \frac{78 - 80.83}{2.52} = -1.13$$

$F(z_i)$ = 0.5 – / + Table Value ; $F(z_1)$ = 0.5 – 0.3686 = 0.1314. etc
$S(z_i)$ = Rank / number ; $S(Z_1)$ = 3 / 12 = 0.250. etc.
Based on the table above L_o Max $\lvert F(z_i) - S(z_i) \rvert$ is **0.1809**
Since L_o (**0.1809**) < L_t (**0.2420**), H_o is accepted. The sample comes from **normal** population.

Appendix 3.2.7
The Normality Test for the Writing Scores of the Students Having High CQ Who Were Taught by Using Direct Instruction Method (A_2B_1)

1) The Working Table for the Writing Scores of the Students Having High CQ Who Were Taught by Using Direct Instruction Method (A_2B_1)

NO	Code	X_i	$(X_i)^2$	z_i	Abs	TABEL	$F(z_i)$	Rank	$S(z_i)$	$\lvert F(z_i)-S(z_i) \rvert$
1	8C-24	**77**	5929	-1.46	1.46	0.4279	0.0721	1	0.0833	0.0112
2	8C-3	**78**	6084	-1.07	1.07	0.3577	0.1423	3	0.2500	0.1077
3	8C-20	**78**	6084	-1.07	1.07	0.3577	0.1423	3	0.2500	0.1077
4	8C-14	**79**	6241	-0.68	0.68	0.2517	0.2483	4	0.3333	0.0850
5	8C-12	**80**	6400	-0.29	0.29	0.1141	0.3859	6	0.5000	0.1141
6	8C-11	**80**	6400	-0.29	0.29	0.1141	0.3859	6	0.5000	0.1141
7	8C-1	**81**	6561	0.10	0.10	0.0359	0.5359	8	0.6667	**0.1308**
8	8C-19	**81**	6561	0.10	0.10	0.0359	0.5359	8	0.6667	**0.1308**
9	8C-17	**83**	6889	0.88	0.88	0.3078	0.8078	10	0.8333	0.0255
10	8C-18	**83**	6889	0.88	0.88	0.3078	0.8078	10	0.8333	0.0255
11	8C-21	**84**	7056	1.27	1.27	0.3962	0.8962	11	0.9167	0.0205
12	8C-10	**85**	7225	1.66	1.66	0.4505	0.9505	12	1.0000	0.0495
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
	Σ X	**969**	**78,319**	**0.00**					**L_o Max**	**0.1308**
	$\overline{X}$	**80.75**							**L_{table}**	**0.2420**
	n	**12**							**$L_o < L_t$**	
	s	**2.56**							**Normal**	

2) The Computation of the Normality Test for the Writing Scores of the Students Having High CQ Who Were Taught by Using Direct Instruction Method (A_2B_1)

$$s = \sqrt{\frac{n\sum X^2 - \left(\sum X\right)^2}{(n)(n-1)}} = \sqrt{\frac{(12x78{,}319)}{12x(12-1)}} = 2.56 \qquad z_1 = \frac{X - \overline{X}}{s} = \frac{77 - 80.75}{3.25} = -1.46$$

$F(z_i)$ = 0.5 – / + Table Value ; $F(z_1)$ = 0.5 – 0.4279 = 0.0721. etc
$S(z_i)$ = Rank / number ; $S(Z_1)$ = 1 / 12 = 0.0833. etc.
Based on the table above L_o Max $\lvert F(z_i) - S(z_i) \rvert$ is **0.1308**
Since L_o (**0.1308**) < L_t (**0.2420**), H_o is accepted. The sample comes from **normal** population.

Appendix 3.2.8
The Normality Test for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Direct Instruction Method (A_2B_2)

1) The Working Table for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Direct Instruction Method (A_2B_2)

NO	Code	X_i	$(X_i)^2$	z_i	Abs	TABEL	$F(z_i)$	Rank	$S(z_i)$	$\lvert F(z_i)-S(z_i) \rvert$
1	8C-16	**80**	6400	-1.68	1.68	0.4535	0.0465	1	0.0833	0.0368
2	8C-15	**81**	6561	-1.27	1.27	0.3962	0.1038	2	0.1667	0.0629
3	8C-22	**82**	6724	-0.86	0.86	0.3023	0.1977	4	0.3333	**0.1356**
4	8C-8	**82**	6724	-0.86	0.86	0.3023	0.1977	4	0.3333	**0.1356**
5	8C-2	**84**	7056	-0.03	0.03	0.0120	0.4880	6	0.5000	0.0120
6	8C-9	**84**	7056	-0.03	0.03	0.0120	0.4880	6	0.5000	0.0120
7	8C-5	**85**	7225	0.38	0.38	0.1443	0.6443	9	0.7500	0.1057
8	8C-6	**85**	7225	0.38	0.38	0.1443	0.6443	9	0.7500	0.1057
9	8C-7	**85**	7225	0.38	0.38	0.1443	0.6443	9	0.7500	0.1057
10	8C-4	**86**	7396	0.79	0.79	0.2823	0.7823	10	0.8333	0.0510
11	8C-13	**87**	7569	1.20	1.20	0.3849	0.8849	11	0.9167	0.0318
12	8C-23	**88**	7744	1.61	1.61	0.4463	0.9463	12	1.0000	0.0537
13										
14										
15										
16										
17										
18										
19										
20										
21										
22										
23										
24										
	Σ X	**1,009**	**84,905**	**0.00**					**L_o Max**	**0.1356**
	$\overline{X}$	**84.08**							**L_{table}**	**0.2420**
	n	**12**							**$L_o < L_t$**	
	s	**2.43**							**Normal**	

2) TheComputation of the Normality Test for the Writing Scores of the Students Having Low CQ Who Were Taught by Using Direct Instruction Method (A_2B_2)

$$s = \sqrt{\frac{n\sum X^2 - \left(\sum X\right)^2}{(n)(n-1)}} = \sqrt{\frac{(12x84.905)}{12x(12-1)}} = 2.43 \qquad z_1 = \frac{X - \overline{X}}{s} = \frac{80 - 84.08}{2.43} = -1.68$$

$F(z_i)$ = 0.5 – / + Table Value ; $F(z_1)$ = 0.5 – 0.4535 = 0.0465. etc
$S(z_i)$ = Rank / number ; $S(Z_1)$ = 1 / 12 = 0.0833. etc.
Based on the table above L_o Max $\lvert F(z_i) - S(z_i) \rvert$ is **0.1356**
Since L_o (**0.1356**) $< L_t$ (**0.2420**), H_o is accepted. The sample comes from **normal** population.

The Summary of Normality Test

No	Data	Number of Data	L_{obs}	L_{table}	Test Result	Test decision	Description
1	A_1	24	0.1186	0.173	$\mathbf{L_{obs} < L_{table}}$	$H_o$is accepted	**Normal**
2	A_2	24	0.0975	0.173	$\mathbf{L_{obs} < L_{table}}$	$H_o$is accepted	**Normal**
3	B_1	24	0.1272	0.173	$\mathbf{L_{obs} < L_{table}}$	$H_o$is accepted	**Normal**
4	B_2	24	0.0884	0.173	$\mathbf{L_{obs} < L_{table}}$	$H_o$is accepted	**Normal**
5	A_1 B_1	12	0.1915	0.242	$\mathbf{L_{obs} < L_{table}}$	$H_o$is accepted	**Normal**
6	A_1 B_2	12	0.1809	0.242	$\mathbf{L_{obs} < L_{table}}$	$H_o$is accepted	**Normal**
7	A_2B_1	12	0.1308	0.242	$\mathbf{L_{obs} < L_{table}}$	$H_o$is accepted	**Normal**
8	A_2 B_2	12	0.1356	0.242	$\mathbf{L_{obs} < L_{table}}$	$H_o$is accepted	**Normal**

Appendix 3.2.9
The Homogeneity Test

1) Formula 1:

$$\chi^2 = (\ln 10)\left\{B - \sum (n_i - 1)\log s_i^2\right\}$$

Data Homogeneity

No	X_1	X_2	X_3	X_4	X_1^2	X_2^2	X_3^2	X_4^2
1	87	77	87	78	7569	5929	7569	6084
2	87	78	87	78	7569	6084	7569	6084
3	88	78	88	78	7744	6084	7744	6084
4	88	79	88	79	7744	6241	7744	6241
5	88	80	88	79	7744	6400	7744	6241
6	88	80	88	80	7744	6400	7744	6400
7	89	81	89	81	7921	6561	7921	6561
8	89	81	89	82	7921	6561	7921	6724
9	89	83	89	83	7921	6889	7921	6889
10	89	83	89	83	7921	6889	7921	6889
11	90	84	90	84	8100	7056	8100	7056
12	90	85	90	85	8100	7225	8100	7225
13	78	80	77	80	6084	6400	5929	6400
14	78	81	78	81	6084	6561	6084	6561
15	78	82	78	82	6084	6724	6084	6724
16	79	82	79	82	6241	6724	6241	6724
17	79	84	80	84	6241	7056	6400	7056
18	80	84	80	84	6400	7056	6400	7056
19	81	85	81	85	6561	7225	6561	7225
20	82	85	81	85	6724	7225	6561	7225
21	83	85	83	85	6889	7225	6889	7225
22	83	86	83	86	6889	7396	6889	7396
23	84	87	84	87	7056	7569	7056	7569
24	85	88	85	88	7225	7744	7225	7744
n	24	24	24	24	24	24	24	24
∑	2032	1978	2031	1979	172476	163224	172317	163383

Description :
X_1 : Writing Scores of Quantum Method (A_1)
X_2 : Writing Scores of Direct Instruction Method (A_2)
X_3 : Writing Scores of High CQ (B_1)
X_4 : Writing Scores of Low CQ (B_2)

$$s_1^2 = \frac{\sum X_1^2 - \frac{\left(\sum X_1\right)^2}{n}}{n-1} \qquad s_1^2 = \frac{\sum X_1^2 - \frac{\left(\sum X_1\right)^2}{n}}{n-1} = \frac{172476 - \frac{(2032)^2}{24}}{24-1} = 18.84$$

$$s_2^2 = \frac{\sum X_2^2 - \frac{\left(\sum X_2\right)^2}{n}}{n-1} \qquad s_2^2 = \frac{\sum X_2^2 - \frac{\left(\sum X_2\right)^2}{n}}{n-1} = \frac{163224 - \frac{(1978)^2}{24}}{24-1} = 8.86$$

$$s_3^2 = \frac{\sum X_3^2 - \frac{\left(\sum X_3\right)^2}{n}}{n-1} \qquad s_3^2 = \frac{\sum X_3^2 - \frac{\left(\sum X_3\right)^2}{n}}{n-1} = \frac{172317 - \frac{(2031)^2}{24}}{24-1} = 19.29$$

$$s_4^2 = \frac{\sum X_4^2 - \frac{\left(\sum X_4\right)^2}{n}}{n-1} \qquad s_4^2 = \frac{\sum X_4^2 - \frac{\left(\sum X_4\right)^2}{n}}{n-1} = \frac{163383 - \frac{(1979)^2}{24}}{24-1} = 8.61$$

Working Table

Sample	n	df (n-1)	1/df	s_i^2	log s_i^2	(df) log s_i^2
1	24	23	0.04	18.84	1.2751	29.3272
2	24	23	0.04	8.86	0.9475	21.7936
3	24	23	0.04	19.29	1.2853	29.5616
4	24	23	0.04	8.61	0.9348	21.5015
	96	92	0.17	55.60	4.4428	102.1838

$$s^2 = \left\{\sum (n_i - 1) s_i^2 / \sum (n_i - 1)\right\}$$

$$s^2 = \left\{\sum (n_i - 1) s_i^2 / \sum (n_i - 1)\right\} = \frac{(23x18.84) + (23x8.86) + (23x19.29) + (23x8.61)}{(23 + 23 + 23 + 23)} = 13.90$$

Log s^2 = log(13.09) =1.143

$$B = \left(\log s^2\right) \sum (n_i - 1) =$$

$$B = \left(\log s^2\right) \sum (n_i - 1) = (1.143)x(23 + 23 + 23 + 23) = 105.1558$$

$$\chi^2 = (\ln 10)\left\{B - \sum (n_i - 1) \log s_i^2\right\}$$

$$\chi^2 = (\ln 10)\left\{B - \sum (n_i - 1) \log s_i^2\right\} = 2.3026x(105.1558 - 102.1838) = 6.8432$$

Because χ^2_{obs} (**6.8432**) is ***lower*** than χ^2_{table} (**7.815**), it can be concluded that **the data are homogenous.**

The Summary of Homogeneity Test of Variance

No	Variances	Data	Number of Data	χ^2_{obs}	χ^2_{table}	Test Result	Test Decision	Description
1	Quantum	X_1	24	6.8432	7.815	$\chi^2_{obs} < \chi^2_{table}$	$H_o$is accepted	**Homogenous**
2	DI	X_2	24	6.8432	7.815	$\chi^2_{obs} < \chi^2_{table}$	$H_o$is accepted	**Homogenous**
3	High CQ	X_3	24	6.8432	7.815	$\chi^2_{obs} < \chi^2_{table}$	$H_o$is accepted	**Homogenous**
4	Low CQ	X_4	24	6.8432	7.815	$\chi^2_{obs} < \chi^2_{table}$	$H_o$is accepted	**Homogenous**

2) Formula 2:

$$\chi^2 = \frac{2.303}{c}\left[f \log MSE - \sum f_j \log S_j{}^2\right]$$

Data Homogeneity

No	X_1	X_2	X_3	X_4	$X_1{}^2$	$X_2{}^2$	$X_3{}^2$	$X_4{}^2$
1	87	77	87	78	7569	5929	7569	6084
2	87	78	87	78	7569	6084	7569	6084
3	88	78	88	78	7744	6084	7744	6084
4	88	79	88	79	7744	6241	7744	6241
5	88	80	88	79	7744	6400	7744	6241
6	88	80	88	80	7744	6400	7744	6400
7	89	81	89	81	7921	6561	7921	6561
8	89	81	89	82	7921	6561	7921	6724
9	89	83	89	83	7921	6889	7921	6889
10	89	83	89	83	7921	6889	7921	6889
11	90	84	90	84	8100	7056	8100	7056
12	90	85	90	85	8100	7225	8100	7225
13	78	80	77	80	6084	6400	5929	6400
14	78	81	78	81	6084	6561	6084	6561
15	78	82	78	82	6084	6724	6084	6724
16	79	82	79	82	6241	6724	6241	6724
17	79	84	80	84	6241	7056	6400	7056
18	80	84	80	84	6400	7056	6400	7056
19	81	85	81	85	6561	7225	6561	7225
20	82	85	81	85	6724	7225	6561	7225
21	83	85	83	85	6889	7225	6889	7225
22	83	86	83	86	6889	7396	6889	7396
23	84	87	84	87	7056	7569	7056	7569
24	85	88	85	88	7225	7744	7225	7744
n	24	24	24	24	24	24	24	24
∑	2032	1978	2031	1979	172476	163224	172317	163383
$(\Sigma X)^2$	4129024	3912484	4124961	3916441				
$(\Sigma X)^2/n$	172043	163020	171873	163185				
SSj	433.33	203.83	443.63	197.96				
S^2	18.84	8.86	19.29	8.61				

Description :

X_1 : Writing Scores of Quantum Method (A_1)

X_2 : Writing Scores of Direct Instruction Method (A_2)

X_3 : Writing Scores of High CQ (B_1)

X_4 : Writing Scores of Low CQ (B_2)

$$SS_j = \sum X_j{}^2 - \frac{\left(\sum X_j\right)^2}{n_j} \qquad SS_j = \sum X_j{}^2 - \frac{\left(\sum X_j\right)^2}{n_j} = 172476 - \frac{(2032)^2}{24} = 433.33$$

$$S_j = \sqrt{\frac{n\sum X^2 - \left(\sum X\right)^2}{n(n-1)}} \qquad S_j = \sqrt{\frac{n\sum X^2 - \left(\sum X\right)^2}{n(n-1)}} = \sqrt{\frac{(24x172476) - (2032)^2}{24x(24-1)}} = 18.84$$

1. Homogeneity among Samples (A_1, A_2, B_1, B_2)

Working Table

Data	Sample	N	fj	SS_j	s_j^2	log SS_j	log sj2	$f_j \log S_j^2$
X_1	Quantum	24	23	433.33	18.84	2.63682	1.27509	29.327
X_2	DI	24	23	203.83	8.86	2.30928	0.94755	21.794
X_3	High CQ	24	23	443.63	19.29	2.64702	1.28529	29.562
X_4	Low CQ	24	23	197.96	8.61	2.29657	0.93485	21.501
4	Σ	96	92	1,278.75	55.60	9.88969	4.44278	102.184

$$MSE = \frac{\sum SS_j}{\sum f_j} \qquad MSE = \frac{\sum SS_j}{\sum f_j} = \frac{1{,}278.75}{92} = 13.90$$

f log MSE = 92x log(13.90) = 92 x 1.14 = 105.16

$$c = 1 + \frac{1}{3(k-1)}\left[\sum \frac{1}{f_j} - \frac{1}{f}\right]$$

$$c = 1 + \frac{1}{3(k-1)}\left[\sum \frac{1}{f_j} - \frac{1}{f}\right] = 1 + \frac{1}{3(4-1)}\left[\frac{1}{23} + \frac{1}{23} + \frac{1}{23} + \frac{1}{23} - \frac{1}{92}\right] = 1.018$$

$$\chi^2 = \frac{2.303}{c}\left[f \log MSE - \sum f_j \log S_j{}^2\right]$$

$$\chi^2 = \frac{2.303}{c}\left[f \log MSE - \sum f_j \log S_j{}^2\right] = \frac{2.303}{1.018}\left[105.16 - 102.184\right] = 6.723$$

Because χ^2_{obs} (**6.723**) is ***lower*** than χ^2_{table} (**7.815**), it can be concluded that **the data are homogenous.**

2. Homogeneity between Columns (A_1 and A_2)

Working Table

Data	Sample	N	fj	SS_j	s_j^2	log SS_j	log sj2	$f_j \log S_j^2$
X_1	Quantum	24	23	433.33	18.84	2.637	1.275	29.327
X_2	DI	24	23	203.83	8.86	2.309	0.948	21.794
2	Σ	48	46	637.17	27.70	4.946	2.223	51.121

$$MSE = \frac{\sum SS_j}{\sum f_j} \qquad MSE = \frac{\sum SS_j}{\sum f_j} = \frac{637.17}{46} = 13.851$$

f log MSE = 46x log(13.851) = 46 x 1.141 = 52.509

$$c = 1 + \frac{1}{3(k-1)}\left[\sum \frac{1}{f_j} - \frac{1}{f}\right]$$

$$c = 1 + \frac{1}{3(k-1)}\left[\sum \frac{1}{f_j} - \frac{1}{f}\right] = 1 + \frac{1}{3(2-1)}\left[\frac{1}{23} + \frac{1}{23} - \frac{1}{46}\right] = 1.022$$

$$\chi^2 = \frac{2.303}{c}\left[f \log MSE - \sum f_j \log S_j{}^2\right]$$

$$\chi^2 = \frac{2.303}{c}\left[f \log MSE - \sum f_j \log S_j{}^2\right] = \frac{2.303}{1.022}\left[52.509 - 51.121\right] = 3.129$$

Because χ^2_{obs} (**3.129**) is ***lower*** than χ^2_{table} (**3.841**), it can be concluded that **the data are homogenous.**

3. Homogeneity between Rows (B_1 and B_2)

Working Table

Data	Sample	N	fj	SS_j	s_j^2	log SS_j	log sj2	$f_j \log S_j^2$
X_3	High CQ	24	23	443.63	19.29	2.65	1.29	29.562
X_4	Low CQ	24	23	197.96	8.61	2.30	0.93	21.501
2	Σ	48	46	641.58	27.89	4.94	2.22	51.063

$$MSE = \frac{\sum SS_j}{\sum f_j} \qquad MSE = \frac{\sum SS_j}{\sum f_j} = \frac{641.58}{46} = 13.947$$

f log MSE = 46x log(13.947) = 46 x 1.144 = 52.647

$$c = 1 + \frac{1}{3(k-1)}\left[\sum \frac{1}{f_j} - \frac{1}{f}\right]$$

$$c = 1 + \frac{1}{3(k-1)}\left[\sum \frac{1}{f_j} - \frac{1}{f}\right] = 1 + \frac{1}{3(2-1)}\left[\frac{1}{23} + \frac{1}{23} - \frac{1}{46}\right] = 1.022$$

$$\chi^2 = \frac{2.303}{c}\left[f \log MSE - \sum f_j \log S_j{}^2\right]$$

$$\chi^2 = \frac{2.303}{c}\left[f \log MSE - \sum f_j \log S_j{}^2\right] = \frac{2.303}{1.018}\left[52.467 - 51.063\right] = 3.570$$

Because χ^2_{obs} (**3.570**) is ***lower*** than χ^2_{table} (**3.841**), it can be concluded that **the data are homogenous.**

The Summary of Homogeneity Test of Variance

No	Variances	Data	χ^2_{obs}	χ^2_{table}	Test Result	Test Decision	Description
1	Among Samples	X_1X_2 X_3X_4	6.723	7.815	$\chi^2_{obs} < \chi^2_{table}$	$H_o$is accepted	**Homogenous**
2	Between Columns	X_1X_2	3.129	3.841	$\chi^2_{obs} < \chi^2_{table}$	$H_o$is accepted	**Homogenous**
3	Between Rows	X_3X_4	3.570	3.841	$\chi^2_{obs} < \chi^2_{table}$	$H_o$is accepted	**Homogenous**

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APPENDIX 3
STATISTICAL COMPUTATION

3.3

THE EFFECTIVENESS OF QUANTUM METHOD
TO TEACH WRITING VIEWED FROM STUDENTS' CREATIVITY
An Experimental Research to the Eighth Grade Students of SMP N 1 Bulukerto
in the 2011/2012 Academic Year

The Result of Testing Hypothesis

ENGLISH DEPARTMENT
GRADUATE SCHOOL
SEBELAS MARET UNIVERSITY
2013

Appendix 3.3.1
Testing Hypothesis of ANOVA
Sample Design

CQ	METHODS						Total SUM (B or r) CQ		
	QUANTUM			DIRECT INSTRUCTION					
	(A_1) or $\|c_1\|$			(A_2) or $\|c_2\|$					
	1. A_1B_1or $\| c_1r_1 \|$ or X_1			**2. A_2B_1** or $\| c_2r_1 \|$ or X_2			B_1 or $\| r_1 \|$ or X_{r1}		
	No	X_1	X_1^2	No	X_2	X_2^2	No	$X\ r_1$	$X\ r_1^2$
HIGH (B_1) or $\|r_1\|$	1	**87**	7569	1	**77**	5929	1	162	26244
	2	**87**	7569	2	**78**	6084	2	163	26569
	3	**88**	7744	3	**78**	6084	3	164	26896
	4	**88**	7744	4	**79**	6241	4	166	27556
	5	**88**	7744	5	**80**	6400	5	167	27889
	6	**88**	7744	6	**80**	6400	6	168	28224
	7	**89**	7921	7	**81**	6561	7	170	28900
	8	**89**	7921	8	**81**	6561	8	171	29241
	9	**89**	7921	9	**83**	6889	9	172	29584
	10	**89**	7921	10	**83**	6889	10	173	29929
	11	**90**	8100	11	**84**	7056	11	175	30625
	12	**90**	8100	12	**85**	7225	12	176	30976
	n_1	12	12	n_2	12	12	n_{r1}	24	24
	ΣX_1	***1062***	93,998	ΣX_2	***969***	78,319	ΣXr_1	***2031***	172,317
	$\overline{X}_{A_1B_1}$	88.50	7,833.17	$\overline{X}_{A_2B_1}$	80.75	6,526.58	$\overline{X}_{B_1}$	84.63	7,179.88
	3. A_1B_2or $\|$ **c_1r_2** $\|$ or X_3			**4. A_2B_2** or $\|$ **c_2r_2** $\|$ or X_4			B_2 or $\| r_2 \|$ or X_{r2}		
	No	X_3	X_3^2	No	X_4	X_4^2	No	$X\ r_2$	$X\ r_2^2$
LOW (B_2) or $\|r_2\|$	1	**78**	6084	1	**80**	6400	1	*151*	22801
	2	**78**	6084	2	**81**	6561	2	*153*	23409
	3	**78**	6084	3	**82**	6724	3	*154*	23716
	4	**79**	6241	4	**82**	6724	4	*156*	24336
	5	**79**	6241	5	**84**	7056	5	*157*	24649
	6	**80**	6400	6	**84**	7056	6	*160*	25600
	7	**81**	6561	7	**85**	7225	7	*162*	26244
	8	**82**	6724	8	**85**	7225	8	*164*	26896
	9	**83**	6889	9	**85**	7225	9	*166*	27556
	10	**83**	6889	10	**86**	7396	10	*167*	27889
	11	**84**	7056	11	**87**	7569	11	*169*	28561
	12	**85**	7225	12	**88**	7744	12	*170*	28900
	n_3	12	12	n_4	12	12	$n\ r_2$	24	24
	ΣX_3	***970***	78,478	ΣX_4	***1009***	84,905	ΣXr_2	***1979***	163383
	$\overline{X}_{A_1B_2}$	80.83	6,539.83	$\overline{X}_{A_2B_2}$	84.08	7,075.42	$\overline{X}_{B_2}$	82.46	6,807.63
Total Methods **A** or $\| c \|$	A_1or $\| c_1 \|$ or X_{c1}			A_2 or $\| c_2 \|$ or X_{c2}			**AB** or $\| t \|$ or X_t		
	$n\ c_1$	24	24	nc_2	24	24	n_t	48	48
	ΣXc_1	2032	172476	ΣXc_2	1978	163224	ΣX_t	4010	335700
	$\overline{X}_{A_1}$	**84.67**	7186.50	$\overline{X}_{A_2}$	**82.42**	6801.00	$\overline{X}_{t}$	83.54	6993.75

ANOVA Computation =
Working Table

CQ	METHODS								
	QUANTUM			DIRECT INSTRUCTION			Total CQ		
	(A_1) or $\|c_1\|$			(A_2) or $\|c_2\|$			**B** or | r|		
	1. A_1B_1 or $\| c_1r_1 \|$ or X_1			**2. A_2B_1** or $\| c_2r_1 \|$ or X_2			**B_1** or $\| r_1 \|$ or X_{r1}		
HIGH (B_1) or $\|r_1\|$	No	X_1	X_1^2	No	X_2	X_2^2	No	$X\ r_1$	$X\ r_1^2$
	n_1	12	12	n_2	12	12	n_{r1}	24	24
	ΣX_1	***1062***	93,998	ΣX_2	***969***	78,319	ΣXr_1	***2031***	172,317
	$\overline{X}$ A_1B_1	88.50	7,833.17	$\overline{X}$ A_2B_1	80.75	6,526.58	$\overline{X}$ B_1	84.63	7,179.88
	3. A_1B_2 or $\| c_1r_2 \|$ or X_3			**4. A_2B_2** or $\| c_2r_2 \|$ or X_4			**B_2** or $\| r_2 \|$ or X_{r2}		
LOW (B_2) or $\|r_2\|$	No	X_3	X_3^2	No	X_4	X_4^2	No	$X\ r_2$	$X\ r_2^2$
	n_3	12	12	n_4	12	12	$n\ r_2$	24	24
	ΣX_3	***970***	78,478	ΣX_4	***1009***	84,905	ΣXr_2	***1979***	163383
	$\overline{X}$ A_1B_2	80.83	6,539.83	$\overline{X}$ A_2B_2	84.08	7,075.42	$\overline{X}$ B_2	82.46	6,807.63
	A_1 or $\| c_1 \|$ or X_{c1}			**A_2** or $\| c_2 \|$ or X_{c2}			**AB** or | t| or X_t		
Total Methods **A** or | c |	No	Xc_1	Xc_1^2	No	Xc_2	$X\ c_2^2$	No	X_t	X_t^2
	$n\ c_1$	24	24	nc_2	24	24	n_t	48	48
	ΣXc_1	2032	172476	ΣXc_2	1978	163224	ΣX_t	4010	335700
	$\overline{X}$ A_1	**84.67**	7186.50	$\overline{X}$ A_2	**82.42**	6801.00	$\overline{X}_t$	83.54	6993.75

1) **Sum Squares = SS**

a) The between-columns sum of squares: SSB

$$\sum x_{bc}{}^2 = \frac{\sum (X_{c1})^2}{n_{c1}} + \frac{\sum (X_{c2})^2}{n_{c2}} - \frac{\sum (X_t)^2}{N}$$

$$\sum x_{bc}{}^2 = \frac{\sum (X_{c1})^2}{n_{c1}} + \frac{\sum (X_{c2})^2}{n_{c2}} - \frac{\sum (X_t)^2}{N} = \frac{(2032)^2}{24} + \frac{(1978)^2}{24} - \frac{(4010)^2}{48} = 60.75$$

b) The between-rows sum of squares: SSA

$$\sum x_{br}{}^2 = \frac{\sum (X_{r1})^2}{n_{r1}} + \frac{\sum (X_{r2})^2}{n_{r2}} - \frac{\sum (X_t)^2}{N}$$

$$\sum x_{br}{}^2 = \frac{\sum (X_{r1})^2}{n_{r1}} + \frac{\sum (X_{r2})^2}{n_{r2}} - \frac{\sum (X_t)^2}{N} = \frac{(2031)^2}{24} + \frac{(1979)^2}{24} - \frac{(4010)^2}{48} = 56.33$$

c) The sum of squares between groups: SSG

$$\sum x_b{}^2 = \frac{\sum (X_1)^2}{n_1} + \frac{\sum (X_2)^2}{n_2} + \frac{\sum (X_3)^2}{n_3} + \frac{\sum (X_4)^2}{n_4} - \frac{\sum (X_t)^2}{n}$$

$$\sum x_b{}^2 = \frac{(1062)^2}{12} + \frac{(969)^2}{12} + \frac{(970)^2}{12} + \frac{(1009)^2}{12} - \frac{(4010)^2}{48} = 480.08$$

d) The sum of squares interaction: SSAB

$$\sum x_{\text{int}}{}^2 = \sum x^2{}_b - \left(\sum x^2{}_{bc} + \sum x^2{}_{br}\right)$$

$$\sum x_{\text{int}}{}^2 = \sum x^2{}_b - \left(\sum x^2{}_{bc} + \sum x^2{}_{br}\right) = 480.08 - (60.75 + 56.33) = 363.00$$

e) The total sum of the squares: SST

$$\sum x_t^{\,2} = \sum X_t^{\,2} - \frac{\left(\sum X_t\right)^2}{n}$$

$$\sum x_t^{\,2} = \sum X_t^{\,2} - \frac{\left(\sum X_t\right)^2}{n} = 335700 - \frac{(4010)^2}{48} = 697.92$$

f) The sum of squares within groups: SSE

$$\sum x_w^{\,2} = \sum X_t^{\,2} - \sum X_b^{\,2}$$

$$\sum x_w^{\,2} = \sum X_t^{\,2} - \sum X_b^{\,2} = 697.92 - 480.08 = 217.83$$

2) **Degrees of freedom = d.f**

C	2	QM & DI (Methods)
R	2	Hi - Lo (Creativity)
G	4	QM-Hi, QM-Lo, DI-Hi , DI-Lo
n	12	Respondents in each group
N	48	Respondents in all groups

a) **dfA** (df for between-columns sum of squares) = C – 1 = 2 – 1 = **1**
b) **dfB** (df for between-rows sum of squares) =R – 1 = 2 – 1 = **1**
c) **dfAB** (df for interaction) = (C – 1)(R – 1) = (1)x(1)=**1**
d) dfG (df for between-groups sum of squares) = G – 1= 4 – 1 = **3**
e) **dfE** (df for within-groups sum of squares) = Σ(n-1) = 4x(12-1) = **44**
f) **dfT** (df for total sum of squares) = N – 1 = 48 – 1 = **47**

3) **Mean Squares = MS**

a) MSA = SSA / dfA = 56.33 : 1 = 56.333
b) MSB = SSB / dfB = 60.75 : 1 = 60.750
c) MSAB = SSAB / dfAB = 363.00 : 1 = 363.000
d) MSG = SSG / dfG = 480.08 : 3 = 160.028
e) MSE = SS E / df E = 217.83 : 44 = **4.951**
f) MST = SST / dfT = 697.92 : 47 =14.849

4) **$F_{computation} = F_{observation}$**

a) FA = SSA / MSE = 56.33: 4.951 = **11.379**
b) FB = SSB / MSE = 60.75: 4.951 = **12.271**
c) FAB = SSAB / MSE = 363.00: 4.951 = **73.322**
d) FG = SSG / MSE = 480.08: 4.951 = 96.972
e) FE = SSE / MSE = 217.83: 4.951 = 44.000
f) FT = SST / MSE = 697.92: 4.951 =140.972

5) **Critical Area**

The critical area for $F_a$or $F_o$is CA = { F_a | $F_a > F_{table}$ }
The critical area for $F_b$or $F_o$is CA = { F_b | $F_b > F_{table}$ }
The critical area for F_{ab}or F_o is CA = { F_{ab} | $F_{ab} > F_{table}$ }.

6) **Test Result**

H_0 is rejected when $F_{obs} \in$ CA

The Summary of the Mean Scores

CQ (B)	TEACHING METHODS (A)		TotalCQ (B or |r|)
	Quantum (A_1 or $\|c_1\|$)	Direct Instruction (A_2 or $\|c_2\|$)	
High CQ (B_1 or $\|r_1\|$)	$\overline{X}$ $A_1B_1 = \overline{X}$ c_1r_1 **88.50**	$\overline{X}$ $A_2B_1 = \overline{X}$ c_2r_1 **80.75**	$\overline{X}$ $B_1 = \overline{X}$ r_1 **84.63**
Low CQ (B_2 or $\|r_2\|$)	$\overline{X}$ $A_1B_2 = \overline{X}$ c_1r_2 **80.83**	$\overline{X}$ $A_2B_2 = \overline{X}$ c_2r_2 **84.08**	$\overline{X}$ $B_2 = \overline{X}$ r_2 **82.46**
Total Methods (A or |c|)	$\overline{X}$ $A_1 = \overline{X}$ c_1 **84.67**	$\overline{X}$ $A_2 = \overline{X}$ c_2 **82.42**	$\overline{X}$ AB= $\overline{X}$ t **83.54**

The Summary of a 2x2 Multifactor Analysis of Variance

Source of Variance	**SS**	**d.f**	**MS**	**F_{obs}**	**$F_{t(.05)}$**	**$F_{t(.01)}$**	**Result**	**Decision $F_{t(.05)}$**	**Decision $F_{t(.01)}$**
Between Columns	60.75	**1**	60.750	**12.271**	***4.06***	***7.25***	**$f_o > f_t$**	**significant**	**significant**
Between Rows	56.33	**1**	56.333	**11.379**	***4.06***	***7.25***	**$f_o > f_t$**	**significant**	**significant**
Column by rows /Interaction	363.00	**1**	363.000	**73.322**	***4.06***	***7.25***	**$f_o > f_t$**	**significant**	**significant**
Between groups	480.08	3	160.028						
Within groups	217.83	**44**	4.951						
Total	697.92	47	14.849						

The value of F_{table} where $df_{numerator} = 1$ and $df_{denominator} = 44$ at the level of significance $\alpha = 0.05$ is **4.06.**
The value of F_{table} where $df_{numerator} = 1$ and $df_{denominator} = 44$ at the level of significance $\alpha = 0.01$ is **7.25.**
If the value of $F_{observation}$ is higher than F_{table} ($F_0 > F_t$), the result is significant.

Conclusion =

Based on the result tables above, it can be concluded that:

1. Because the value of F_o between columns (**12.271**) is ***higher*** than the value of $F_t(.05)$ (**4.06**) and $F_t(.01)$ (**7.25**), H_o is rejected and the difference between columns is ***significant.*** It means **there is significant difference on the student's writing skill between those who were taught by using Quantum method and who were taught by using Direct Instruction method.** Teaching methods differ significantly from one another in their effect on the performance of the subjects in the experiment.
   In addition, the mean score of the students who were taught by using Quantum Method (**84.67**) is ***higher*** than that of those who were taught by using Direct Instruction method (**82.42**). Since the writing skill of the students who were taught by using Quantum method (A_1) is ***better*** than that of those who were taught by using Direct Instruction method (A_2), it can be concluded that **Quantum method is more effective than Direct Instruction method to teach writing.**
2. Because the value of F_o between rows/CQ scores (**11.379**) is ***higher*** than the value of $F_t(.05)$ (**4.06**) and $F_t(.01)$ (**7.25**), H_o is rejected and the difference between rows is ***significant.*** It means **there is a significant difference on the students' writing skill between those having high CQ and those having low CQ scores**. Creativity scores differ significantly from one another in their effect on the performance of the subjects in the experiment.
   In addition, the mean score of the students having high CQ (**84.63**) is ***higher*** than that of those having low CQ (**82.46**). Since the writing skill of the students having high CQ (B_1) is ***better*** than that of those having low CQ scores (B_2), it can be concluded that **the students having high CQ have better writing skill than those having low CQ.**
3. Because the value of F_o columns by rows/interaction (**73.322**) is ***higher*** than the value of $F_t(.05)$ (**4.06**) and $F_t(.01)$ (**7.25**), H_o is rejected and the difference columns by rows/ interaction is ***significant.*** It means **there is an interaction of teaching methods and CQ scores toward students' writing skill.** The effect of teaching methods on writing skill depends on the degree of CQ scores.

Appendix 3.3.2
Testing Hypothesis of Tukey's Test

Since the all of F_{obs} inANOVA above are higher than F_{table},, $H_o$are rejected and the results are significant. Thus, it was necessary to find out the significant effects or mean test with comparative test by using Tukey's test.

Formula :

$$q = \frac{\overline{X}_a - \overline{X}_b}{\sqrt{ErrorVariance / n}}$$

In Tukey's post-hoc test $q_{observation}$ is compared with q_{table}, if $q_o > q_t$, the difference is significant. To know which one is better, compare the means.
Error variance is **4.951** (the value of MSE in Anova calculation).
For$N = 48$; $k = 4$; $df = N - k = 48 - 4 = 44$.
The value of q_{table} where k = 4 and df = 44 (~ 40) at level significance ($\alpha = 0.05$) is **3.79**
The value of q_{table} where k = 4 and df = 44 (~ 40) at level significance ($\alpha = 0.01$) is **4.70**
If the value of $q_{observation}$ is higher than q_{table} ($q_0 > q_t$), the result is significant.

The Differences of the Mean Scores

No	1	2	Test Result
1	$\overline{X}$ A_1 =**84.67**	$\overline{X}$ A_2 = **82.42**	$\overline{X}$ A_1> $\overline{X}$ A_2 = **(2.25)**
2	$\overline{X}$ B_1 =**84.63**	$\overline{X}$ B_2=**82.46**	$\overline{X}$ B_1> $\overline{X}$ B_2 = **(2.17)**
3	$\overline{X}$ A_1B_1 = **88.50**	$\overline{X}$ A_2B_1=**80.75**	$\overline{X}$ A_1B_1> $\overline{X}$ A_2B_1=**(7.75)**
4	$\overline{X}$ A_2B_2 = **84.08**	$\overline{X}$ A_1B_2=**80.83**	$\overline{X}$ A_2B_2> $\overline{X}$ A_1B_2= (**3.25)**

The Summary of Tukey's Test

No	q_{obs}	q_t(.05) or (.01)	Test Result	Decision
1	$q = \frac{\bar{X}_{A1} - \bar{X}_{A2}}{\sqrt{errorvarience\ /n}} = \frac{84.67 - 82.42}{\sqrt{4.951/24}}$ = **4.95**	3.79 or 4.70	$q_o > q_t$	**Significant**
2	$q = \frac{\bar{X}_{B1} - \bar{X}_{B2}}{\sqrt{errorvarience\ /n}} = \frac{84.63 - 82.46}{\sqrt{4.951/24}}$ = **4.77**	3.79 or 4.70	$q_o > q_t$	**Significant**
3	$q = \frac{\bar{X}_{A1B1} - \bar{X}_{A2B1}}{\sqrt{errorvarience\ /n}} = \frac{88.50 - 80.75}{\sqrt{4.951/12}} = \mathbf{12.07}$	3.79 or 4.70	$q_o > q_t$	**Significant**
4	$q = \frac{\bar{X}_{A2B2} - \bar{X}_{A1B2}}{\sqrt{errorvarience\ /n}} = \frac{84.08 - 80.83}{\sqrt{4.951/12}}$ = **5.06**	3.79 or 4.70	$q_o > q_t$	**Significant**

Conclusion =
Based on the result tables above, it can be concluded that:

1. Because the value of q_{obs} between columns A_1 and A_2 which compares Quantum with Direct Instruction method (**4.95**) is ***higher*** than the value of q_t (.05) (**3.79**) and q_t (.01) (**4.70**), the difference between columns A_1 and A_2 is ***significant.*** So, it can be concluded that ***Quantum method differs significantly from Direct Instruction method to teach writing***.
   The mean score of the students who were taught by using Quantum Method (**84.67**) is ***higher*** than that of those who were taught by using Direct Instruction method (**82.42**). Thus***, the writing skill of the students who were taught by using Quantum method (A_1) is better than that of those who were taught by using Direct Instruction method (A_2).***
2. Because the value of q_{obs} between rows B_1 and B_2 which compares high with low creativity (**4.77**) is ***higher***than the value of q_t(.05) (**3.79**) and q_t(.01) (**4.70**), the difference between rows B_1 and B_2 is ***significant***. So, it can be concluded that ***the students having high CQ differ significantly from those having low CQ in their writing skill.***
   The mean score of the students having high CQ (**84.63**) is ***higher*** than that of those having low CQ (**82.46**). Thus, ***the writing skill of the students having high CQ (B_1) is better than that of those having low CQ (B_1).***

3. Because the value of q_{obs} between cells A_1B_1 and A_1B_2 which compares Quantum method with Direct Instruction method for students having high CQ (**12.07**) is ***higher***than the value of $q_t(.05)$ (**3.79**) and $q_t(.01)$ (**4.70**), the difference between cells A_1B_1 and A_1B_2 is ***significant.*** So, it can be concluded that ***Quantum method differs significantly from Direct Instruction method to teach writing for students having high CQ.***
   The mean score of the students having high CQ who were taught by using Quantum method (**88.50**)is ***higher*** than that of those having high CQ who were taught by using Direct Instruction method (**80.75**). Thus, ***the writing skill of the students having high CQ who were taught by using Quantum method (A_1B_1) is better than that of those having high CQ who were taught by using Direct Instruction method (A_2B_1).***
4. Because the value of q_{obs} between cells A_2B_2 and A_1B_2 which compares Direct Instruction method with Quantum method for students having low CQ (**5.06**) is ***higher***than the value of $q_t(.05)$ (**3.79**) and $q_t(.01)$ (**4.70**), the difference between cells A_2B_2 and A_1B_2 is ***significant.*** So, it can be concluded that ***Direct Instruction method differs significantly from Quantum method to teach writing for students having low CQ.***
   The mean score of the students having low CQ scores who were taught by using Direct Instruction method (**84.08**) is ***higher*** than that of those having low CQ who were taught by using Quantum method (**80.83**). Thus, ***the writing skill of the students having low CQ who were taught by using Direct Instruction method (A_2B_2) is better than that of those having low CQ who were taught by using Quantum method (A_1B_2).***

Based on (3) and (4) above, it can be concluded that there is an interaction between teaching methods and creativity in teaching writing skill. It means that ***Quantum method is more effective than Direct Instruction method to teach writing for the students having high CQ*** and ***Direct Instruction method is more effective than Quantum method to teach writing for the students having low CQ.*** In the other words, ***the students having high creativity are better taught by using Quantum method*** and ***the students having low creativity are better taught by using Direct Instruction method.***

Appendix 3.3.3
The Conclusion of Statistical Hypotheses

Based on the result of the research, the statistical hypotheses are concluded as follows:

1. The differences between Quantum (A_1) and Direct instruction (A_2) in teaching writing skill for the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year.

   H_o: $\mu_{A1} = \mu_{A2}$

   There is no difference in writing skill between the students who were taught by using Quantum method (A_1) and those who were taught by Direct Instruction method (A_2).

   H_1: $\mu_{A1} > \mu_{A2}$

   H_1 is accepted and H_0 is rejected if Quantum method (A_1) is more effective than Direct Instruction method (A_2) to teach writing.

   There aredifferences between Quantum and Direct instruction methods in teaching writing skill for the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year.Because the value of $F_o$between columns/teaching methods (**12.271**) is **higher** than the value ofF_t(.05) (**4.06**) and F_t(.01) (**7.25**),$H_o$is rejected and the difference between columns is ***significant***. Itmeans ***there is a significant difference on the student's writing skill between those who were taught by using Quantum method and those who who were taught by using Direct Instruction method***. Teaching methods differ significantly from one another in their effect on the performance of the subjects in the experiment.

   Because the value of q_{obs} between columns A_1 and A_2which comparesQuantum with Direct Instruction method (**4.95**) is **higher** than the value of q_t (.05) (**3.79**) and q_t (.01) (**4.70)**, the difference between columns A_1 and A_2 is ***significant***. So, it can be concluded that ***Quantum method differs significantly from Direct Instruction method to teach writing.***

   In addition, since the mean score of the students who were taught by using Quantum Method (**84.67**) is **higher** than that of those who were taught by using Direct Instruction method (**82.42**), it can be concluded that ***the writing skill of the students who were taught by using Quantum method (A_1) is better than that of those who were taught by using Direct Instruction method (A_2).***

   Thus, **H_o is rejected and H_1 is accepted**. ***Quantum method is more effective than Direct Instruction method to teach writing***.

2. The differences in teaching writing skill between the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year having high creativity (B_1) and those having low creativity (B_2).

   H_o: $\mu_{B1} = \mu_{B2}$

   There is no difference in writing skill between the students having high creativity (B_1) and those having low creativity (B_2).

   H_1: $\mu_{B1} > \mu_{B2}$

   The students having high creativity (B_1) have better writing skill than those having low creativity (B_2).

There are differences in teaching writing skill between the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year having high creativity (B_1) and those having low creativity (B_2).

Because the value of F_o between rows/CQ scores (**11.379**) is ***higher*** than the value of $F_t(.05)$ **(4.06)** and $F_t(.01)$ (**7.25**), H_o is rejected and the difference between rows is ***significant.*** It means **there is a significant difference on the students' writing skill between those having high CQ and those having low CQ scores**. Creativity scores differ significantly from one another in their effect on the performance of the subjects in the experiment.

Because the value of q_{obs} between rows B_1 and B_2 which compares high with low creativity (**4.77**) is ***higher*** than the value of $q_t(.05)$ (**3.79**) and $q_t(.01)$ (**4.70**), the difference between rows B_1 and B_2 is ***significant***. So, it can be concluded that ***the students having high CQ differ significantly from those having low CQ in their writing skill.***

In addition, since the mean score of the students having high CQ (**84.63**) is ***higher*** than that of those having low CQ (**82.46**), it can be concluded that ***the students having high CQ have better writing skill than those having low CQ.***

Thus, **H_o is rejected and H_1 is accepted.**The students having high creativity (B_1) have better writing skill than those having low creativity (B_2).

3. The interaction between teaching methods (A) and students' creativity (B) in teaching writing for the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year.

   H_o: A x B =0

   There is no interaction between teaching methods (A) and students' creativity (B) in teaching writing.

   H_1: A x B > 0

   H_1 is accepted and H_0 is rejected if there is significant interaction between teaching methods (A) and students' creativity (B) in teaching writing.

   There is significant interaction between teaching methods (A) and students' creativity (B) in teaching writing.

   Because the value of F_o columns by rows/interaction (**73.322**) is ***higher*** than the value of $F_t(.05)$ (**4.06**) and $F_t(.01)$ (**7.25**), H_o is rejected and the difference columns by rows/interaction is ***significant.*** It means **there is an interaction of teaching methods and CQ scores toward students' writing skill.** The effect of teaching methods on writing skill depends on the degree of CQ scores.

   a. Because the value of q_{obs} between cells A_1B_1 and A_1B_2 which compares Quantum method with Direct Instruction method for students having high CQ (**12.07**) is ***higher*** than the value of $q_t(.05)$ (**3.79**) and $q_t(.01)$ (**4.70**), the difference between cells A_1B_1 and A_1B_2 is ***significant.*** So, it can be concluded that ***Quantum method differs significantly from Direct Instruction method to teach writing for students having high CQ.*** In addition, since the mean score of the students having high CQ who were taught by using Quantum method (**88.50**)is ***higher*** than that of those having high CQ who were taught by using Direct Instruction method (**80.75**), it can be concluded that ***the writing skill of the students having high CQ who were taught by using Quantum method (A_1B_1) is better than that of those having high CQ who were taught by using Direct Instruction method (A_2B_1).*** Thus, it means that ***Quantum method is more effective than Direct Instruction method to teach writing for the students having high CQ.***

   b. Because the value of q_{obs} between cells A_2B_2 and A_1B_2 which compares Direct Instruction method with Quantum method for students having low CQ (**5.06**) is ***higher*** than the value of $q_t(.05)$ (**3.79**) and $q_t(.01)$ (**4.70**), the difference between cells A_2B_2 and A_1B_2 is ***significant.*** So, it can be concluded that ***Direct Instruction method differs significantly***

from Quantum method to teach writing for students having low CQ. In addition, since the mean score of the students having low CQ scores who were taught by using Direct Instruction method (**84.08**) is ***higher*** than that of those having low CQ who were taught by using Quantum method (**80.83**), it can be concluded that ***the writing skill of the students having low CQ who were taught by using Direct Instruction method (A_2B_2) is better than that of those having low CQ who were taught by using Quantum method (A_1B_2).*** Thus, it means that ***Direct Instruction method is more effective than Quantum method to teach writing for the students having low CQ.***

Based on the results above, **H_o is rejected and H_1 is accepted**. **There is an interaction between teaching methods (A) and students' creativity (B) in teaching writing for the eighth grade students of SMP N 1 Bulukerto in the 2011/2012 academic year.** Since the writing skill of the students having high creativity who were taught by using Quantum method (A_1B_1)is better significantly than the writing skill of the students having high creativity who were taught by using Direct Instruction method (A_2B_1), the students having high creativity is better taught by using Quantum method than Direct Instruction method. Meanwhile, since the writing skill of the students having low creativity who were taught by using Direct Instruction (A_2B_2) is better significantly than the writing skill of the students having low creativity who were taught by using Quantum method (A_1B_2), the students having low creativity is better taught by using Direct Instruction method than Quantum method.

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APPENDIX 3
STATISTICAL COMPUTATION

3.4

THE EFFECTIVENESS OF QUANTUM METHOD
TO TEACH WRITING VIEWED FROM STUDENTS' CREATIVITY
An Experimental Research to the Eighth Grade Students of SMP N 1 Bulukerto
in the 2011/2012 Academic Year

Statistical Tables

ENGLISH DEPARTMENT
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2013

Appendix 3.4.1
Table of Significant Value of L (Critical Value of Lilliefors)

Table A22 Table of Critical Values for the Lilliefors Test for Normality

One-tailed	.20	.15	.10	.05	.01
Two-tailed	.40	.30	.20	.10	.02
$n = 4$	.300	.319	.352	.381	.417
5	.285	.299	.315	.337	.405
6	.265	.277	.294	.319	.364
7	.247	.258	.276	.300	.348
8	.233	.244	.261	.285	.331
9	.223	.233	.249	.271	.311
10	.215	.224	.239	.258	.294
11	.206	.217	.230	.249	.284
12	.199	.212	.223	.242	.275
13	.190	.202	.214	.234	.268
14	.183	.194	.207	.227	.261
15	.177	.187	.201	.220	.257
16	.173	.182	.195	.213	.250
17	.169	.177	.189	.206	.245
18	.166	.173	.184	.200	.239
19	.163	.169	.179	.195	.235
20	.160	.166	.174	.190	.231
25	.142	.147	.158	.173	.200
30	.131	.136	.144	.161	.187
$n > 30$	$.736/\sqrt{n}$	$.768/\sqrt{n}$	$.805/\sqrt{n}$	$.886/\sqrt{n}$	$1.031/\sqrt{n}$

In this research the table of significant value of L is used in the prerequisite of Normality test
The value of $L_{table}$where n = 12 (= 12) at level significance ($\alpha = 0.05$) is **0.242**
The value of $L_{table}$where n = 24 (~ 25) at level significance ($\alpha = 0.05$) is **0.173**
If the value of $L_{obtained}$ max is lower than L_{table} (L_0max $< L_t$), the population of the data is normal.

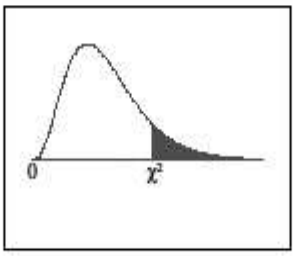
Appendix 3.4.2
Table of the Standard Normal Distribution (z)

TABLE A Standard Normal Probabilities										
z	**.00**	**.01**	**.02**	**.03**	**.04**	**.05**	**.06**	**.07**	**.08**	**.09**
0.0	0.0000	0.0040	0.0080	0.0120	0.0160	0.0199	0.0239	0.0279	0.0319	0.0359
0.1	0.0398	0.0438	0.0478	0.0517	0.0557	0.0596	0.0636	0.0675	0.0714	0.0753
0.2	0.0793	0.0832	0.0871	0.0910	0.0948	0.0987	0.1026	0.1064	0.1103	0.1141
0.3	0.1179	0.1217	0.1255	0.1293	0.1331	0.1368	0.1406	0.1443	0.1480	0.1517
0.4	0.1540	0.1591	0.1628	0.1664	0.1700	0.1736	0.1772	0.1808	0.1844	0.1879
0.5	0.1915	0.1950	0.1985	0.2019	0.2054	0.2088	0.2123	0.2157	0.2190	0.2224
0.6	0.2257	0.2291	0.2324	0.2357	0.2389	0.2422	0.2454	0.2486	0.2517	0.2549
0.7	0.2580	0.2611	0.2642	0.2673	0.2704	0.2734	0.2764	0.2794	0.2823	0.2852
0.8	0.2881	0.2910	0.2939	0.2967	0.2995	0.3023	0.3051	0.3078	0.3106	0.3133
0.9	0.3159	0.3186	0.3212	0.3238	0.3264	0.3289	0.3315	0.3340	0.3365	0.3389
1.0	0.3413	0.3438	0.3461	0.3485	0.3508	0.3531	0.3554	0.3577	0.3599	0.3621
1.1	0.3643	0.3665	0.3686	0.3708	0.3729	0.3749	0.3770	0.3790	0.3810	0.3830
1.2	0.3849	0.3869	0.3888	0.3907	0.3925	0.3944	0.3962	0.3980	0.3997	0.4015
1.3	0.4032	0.4049	0.4066	0.4082	0.4099	0.4115	0.4131	0.4147	0.4162	0.4177
1.4	0.4192	0.4207	0.4222	0.4236	0.4251	0.4265	0.4279	0.4292	0.4306	0.4319
1.5	0.4332	0.4345	0.4357	0.4370	0.4382	0.4394	0.4406	0.4418	0.4429	0.4441
1.6	0.4452	0.4463	0.4474	0.4484	0.4495	0.4505	0.4515	0.4525	0.4535	0.4545
1.7	0.4554	0.4564	0.4573	0.4582	0.4591	0.4599	0.4608	0.4616	0.4625	0.4633
1.8	0.4641	0.4649	0.4656	0.4664	0.4671	0.4678	0.4686	0.4693	0.4699	0.4706
1.9	0.4713	0.4719	0.4726	0.4732	0.4738	0.4744	0.4750	0.4756	0.4761	0.4767
2.0	0.4772	0.4778	0.4783	0.4788	0.4793	0.4798	0.4803	0.4808	0.4812	0.4817
2.1	0.4821	0.4826	0.4830	0.4834	0.4838	0.4842	0.4846	0.4850	0.4854	0.4857
2.2	0.4861	0.4864	0.4868	0.4871	0.4875	0.4878	0.4881	0.4884	0.4887	0.4890
2.3	0.4893	0.4896	0.4898	0.4901	0.4904	0.4906	0.4909	0.4911	0.4913	0.4916
2.4	0.4918	0.4920	0.4922	0.4925	0.4927	0.4929	0.4931	0.4932	0.4934	0.4936
2.5	0.4938	0.4940	0.4941	0.4943	0.4945	0.4946	0.4948	0.4949	0.4951	0.4952
2.6	0.4953	0.4955	0.4956	0.4957	0.4959	0.4960	0.4961	0.4962	0.4963	0.4964
2.7	0.4965	0.4966	0.4967	0.4968	0.4969	0.4970	0.4971	0.4972	0.4973	0.4974
2.8	0.4974	0.4975	0.4976	0.4977	0.4977	0.4978	0.4979	0.4979	0.4980	0.4981
2.9	0.4981	0.4982	0.4982	0.4983	0.4984	0.4984	0.4985	0.4985	0.4986	0.4986
3.0	0.4987	0.4987	0.4987	0.4988	0.4988	0.4989	0.4989	0.4989	0.4990	0.4990
3.1	0.4990	0.4991	0.4991	0.4991	0.4992	0.4992	0.4992	0.4992	0.4993	0.4993
3.2	0.4993	0.4993	0.4994	0.4994	0.4994	0.4994	0.4994	0.4995	0.4995	0.4995
3.3	0.4995	0.4995	0.4995	0.4996	0.4996	0.4996	0.4996	0.4996	0.4996	0.4997
3.4	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4997	0.4998

In this research the table of significant value of L is used in the prerequisite of Normality test
The value of Z_{table} where $|Z_i| = 2.00$ is **0.4772**
The value of Z_{table} where $|Z_i| = 2.01$ is **0.4778,** etc

Appendix 3.4.3
Table of Significant Value of χ^2 (Critical Value of Chi-Squared)

Chi-Square Distribution Table



The shaded area is equal to α for $\chi^2 = \chi^2_\alpha$.

df	$\chi^2_{.995}$	$\chi^2_{.990}$	$\chi^2_{.975}$	$\chi^2_{.950}$	$\chi^2_{.900}$	$\chi^2_{.100}$	$\chi^2_{.050}$	$\chi^2_{.025}$	$\chi^2_{.010}$	$\chi^2_{.005}$
1	0.000	0.000	0.001	0.004	0.016	2.706	3.841	5.024	6.635	7.879
2	0.010	0.020	0.051	0.103	0.211	4.605	5.991	7.378	9.210	10.597
3	0.072	0.115	0.216	0.352	0.584	6.251	7.815	9.348	11.345	12.838
4	0.207	0.297	0.484	0.711	1.064	7.779	9.488	11.143	13.277	14.860
5	0.412	0.554	0.831	1.145	1.610	9.236	11.070	12.833	15.086	16.750
6	0.676	0.872	1.237	1.635	2.204	10.645	12.592	14.449	16.812	18.548
7	0.989	1.239	1.690	2.167	2.833	12.017	14.067	16.013	18.475	20.278
8	1.344	1.646	2.180	2.733	3.490	13.362	15.507	17.535	20.090	21.955
9	1.735	2.088	2.700	3.325	4.168	14.684	16.919	19.023	21.666	23.589
10	2.156	2.558	3.247	3.940	4.865	15.987	18.307	20.483	23.209	25.188
11	2.603	3.053	3.816	4.575	5.578	17.275	19.675	21.920	24.725	26.757
12	3.074	3.571	4.404	5.226	6.304	18.549	21.026	23.337	26.217	28.300
13	3.565	4.107	5.009	5.892	7.042	19.812	22.362	24.736	27.688	29.819
14	4.075	4.660	5.629	6.571	7.790	21.064	23.685	26.119	29.141	31.319
15	4.601	5.229	6.262	7.261	8.547	22.307	24.996	27.488	30.578	32.801
16	5.142	5.812	6.908	7.962	9.312	23.542	26.296	28.845	32.000	34.267
17	5.697	6.408	7.564	8.672	10.085	24.769	27.587	30.191	33.409	35.718
18	6.265	7.015	8.231	9.390	10.865	25.989	28.869	31.526	34.805	37.156
19	6.844	7.633	8.907	10.117	11.651	27.204	30.144	32.852	36.191	38.582
20	7.434	8.260	9.591	10.851	12.443	28.412	31.410	34.170	37.566	39.997
21	8.034	8.897	10.283	11.591	13.240	29.615	32.671	35.479	38.932	41.401
22	8.643	9.542	10.982	12.338	14.041	30.813	33.924	36.781	40.289	42.796
23	9.260	10.196	11.689	13.091	14.848	32.007	35.172	38.076	41.638	44.181
24	9.886	10.856	12.401	13.848	15.659	33.196	36.415	39.364	42.980	45.559
25	10.520	11.524	13.120	14.611	16.473	34.382	37.652	40.646	44.314	46.928
26	11.160	12.198	13.844	15.379	17.292	35.563	38.885	41.923	45.642	48.290
27	11.808	12.879	14.573	16.151	18.114	36.741	40.113	43.195	46.963	49.645
28	12.461	13.565	15.308	16.928	18.939	37.916	41.337	44.461	48.278	50.993
29	13.121	14.256	16.047	17.708	19.768	39.087	42.557	45.722	49.588	52.336
30	13.787	14.953	16.791	18.493	20.599	40.256	43.773	46.979	50.892	53.672
40	20.707	22.164	24.433	26.509	29.051	51.805	55.758	59.342	63.691	66.766
50	27.991	29.707	32.357	34.764	37.689	63.167	67.505	71.420	76.154	79.490
60	35.534	37.485	40.482	43.188	46.459	74.397	79.082	83.298	88.379	91.952
70	43.275	45.442	48.758	51.739	55.329	85.527	90.531	95.023	100.425	104.215
80	51.172	53.540	57.153	60.391	64.278	96.578	101.879	106.629	112.329	116.321
90	59.196	61.754	65.647	69.126	73.291	107.565	113.145	118.136	124.116	128.299
100	67.328	70.065	74.222	77.929	82.358	118.498	124.342	129.561	135.807	140.169

In this research the table value of χ^2 is used in the prerequisite of Homogeneity test
The value of χ^2_{table} where df = 1 at level significance ($\alpha = 0.05$) is **3.841**
The value of χ^2_{table} where df = 3 at level significance ($\alpha = 0.05$) is **7.815**
If the value of $\chi^2_{observation}$ is lower than the χ^2_{table} ($\chi^2_o > \chi^2_t$), the population of variance is homogen.

Appendix 3.4.4
Table of Significant Value of F

The value of F_{table} at level significance ($\alpha = 0.05$) where $df_{numerator} = 1$ and $df_{denominator} = 44$

VassarStats: Table of Critical F Values (p. 3)
[top entry for .05 level; bottom entry for .01 level]

df denominator	df numerator 1	2	3	4	5	6	7	8	9	10	11	12	13	14
31	4.16	3.30	2.91	2.68	2.52	2.41	2.32	2.25	2.20	2.15	2.11	2.08	2.05	2.03
	7.53	5.36	4.48	3.99	3.67	3.45	3.28	3.15	3.04	2.96	2.88	2.82	2.77	2.72
32	4.15	3.29	2.90	2.67	2.51	2.40	2.31	2.24	2.19	2.14	2.10	2.07	2.04	2.01
	7.50	5.34	4.46	3.97	3.65	3.43	3.26	3.13	3.02	2.93	2.86	2.80	2.74	2.70
33	4.14	3.28	2.89	2.66	2.50	2.39	2.30	2.23	2.18	2.13	2.09	2.06	2.03	2.00
	7.47	5.31	4.44	3.95	3.63	3.41	3.24	3.11	3.00	2.91	2.84	2.78	2.72	2.68
34	4.13	3.28	2.88	2.65	2.49	2.38	2.29	2.23	2.17	2.12	2.08	2.05	2.02	1.99
	7.44	5.29	4.42	3.93	3.61	3.39	3.22	3.09	2.98	2.89	2.82	2.76	2.70	2.66
35	4.12	3.27	2.87	2.64	2.49	2.37	2.29	2.22	2.16	2.11	2.07	2.04	2.01	1.99
	7.42	5.27	4.40	3.91	3.59	3.37	3.20	3.07	2.96	2.88	2.80	2.74	2.69	2.64
36	4.11	3.26	2.87	2.63	2.48	2.36	2.28	2.21	2.15	2.11	2.07	2.03	2.00	1.98
	7.40	5.25	4.38	3.89	3.57	3.35	3.18	3.05	2.95	2.86	2.79	2.72	2.67	2.62
37	4.11	3.25	2.86	2.63	2.47	2.36	2.27	2.20	2.14	2.10	2.06	2.02	2.00	1.97
	7.37	5.23	4.36	3.87	3.56	3.33	3.17	3.04	2.93	2.84	2.77	2.71	2.65	2.61
38	4.10	3.24	2.85	2.62	2.46	2.35	2.26	2.19	2.14	2.09	2.05	2.02	1.99	1.96
	7.35	5.21	4.34	3.86	3.54	3.32	3.15	3.02	2.92	2.83	2.75	2.69	2.64	2.59
39	4.09	3.24	2.85	2.61	2.46	2.34	2.26	2.19	2.13	2.08	2.04	2.01	1.98	1.95
	7.33	5.19	4.33	3.84	3.53	3.30	3.14	3.01	2.90	2.81	2.74	2.68	2.62	2.58
40	4.08	3.23	2.84	2.61	2.45	2.34	2.25	2.18	2.12	2.08	2.04	2.00	1.97	1.95
	7.31	5.18	4.31	3.83	3.51	3.29	3.12	2.99	2.89	2.80	2.73	2.66	2.61	2.56
41	4.08	3.23	2.83	2.60	2.44	2.33	2.24	2.17	2.12	2.07	2.03	2.00	1.97	1.94
	7.30	5.16	4.30	3.81	3.50	3.28	3.11	2.98	2.87	2.79	2.71	2.65	2.60	2.55
42	4.07	3.22	2.83	2.59	2.44	2.32	2.24	2.17	2.11	2.06	2.03	1.99	1.96	1.94
	7.28	5.15	4.29	3.80	3.49	3.27	3.10	2.97	2.86	2.78	2.70	2.64	2.59	2.54
43	4.07	3.21	2.82	2.59	2.43	2.32	2.23	2.16	2.11	2.06	2.02	1.99	1.96	1.93
	7.26	5.14	4.27	3.79	3.48	3.25	3.09	2.96	2.85	2.76	2.69	2.63	2.57	2.53
44	4.06	3.21	2.82	2.58	2.43	2.31	2.23	2.16	2.10	2.05	2.01	1.98	1.95	1.92
	7.25	5.12	4.26	3.78	3.47	3.24	3.08	2.95	2.84	2.75	2.68	2.62	2.56	2.52
45	4.06	3.20	2.81	2.58	2.42	2.31	2.22	2.15	2.10	2.05	2.01	1.97	1.94	1.92
	7.23	5.11	4.25	3.77	3.45	3.23	3.07	2.94	2.83	2.74	2.67	2.61	2.55	2.51

In this research the table value of F is used in testing hypotheses of ANOVA
The value of F_{table} where $df_{numerator} = 1$ and $df_{denominator} = 44$ at level significance ($\alpha = 0.05$) is **4.06**
The value of F_{table} where $df_{numerator} = 1$ and $df_{denominator} = 44$ at level significance ($\alpha = 0.01$) is **7.25**
If the value of $F_{observation}$ is higher than F_{table} ($F_0 > F_t$), the result is significant.

Appendix 3.4.5
Table of the Studentized Range Statistic (q)

TABLE B.5 THE STUDENTIZED RANGE STATISTIC (q)*

*The critical values for q corresponding to $\alpha = .05$ (lightface type) and $\alpha = .01$ (boldface type).

df for Error Term	k = Number of Treatments										
	2	3	4	5	6	7	8	9	10	11	12
5	3.64	4.60	5.22	5.67	6.03	6.33	6.58	6.80	6.99	7.17	7.32
	5.70	**6.98**	**7.80**	**8.42**	**8.91**	**9.32**	**9.67**	**9.97**	**10.24**	**10.48**	**10.70**
6	3.46	4.34	4.90	5.30	5.63	5.90	6.12	6.32	6.49	6.65	6.79
	5.24	**6.33**	**7.03**	**7.56**	**7.97**	**8.32**	**8.61**	**8.87**	**9.10**	**9.30**	**9.48**
7	3.34	4.16	4.68	5.06	5.36	5.61	5.82	6.00	6.16	6.30	6.43
	4.95	**5.92**	**6.54**	**7.01**	**7.37**	**7.68**	**7.94**	**8.17**	**8.37**	**8.55**	**8.71**
8	3.26	4.04	4.53	4.89	5.17	5.40	5.60	5.77	5.92	6.05	6.18
	4.75	**5.64**	**6.20**	**6.62**	**6.96**	**7.24**	**7.47**	**7.68**	**7.86**	**8.03**	**8.18**
9	3.20	3.95	4.41	4.76	5.02	5.24	5.43	5.59	5.74	5.87	5.98
	4.60	**5.43**	**5.96**	**6.35**	**6.66**	**6.91**	**7.13**	**7.33**	**7.49**	**7.65**	**7.78**
10	3.15	3.88	4.33	4.65	4.91	5.12	5.30	5.46	5.60	5.72	5.83
	4.48	**5.27**	**5.77**	**6.14**	**6.43**	**6.67**	**6.87**	**7.05**	**7.21**	**7.36**	**7.49**
11	3.11	3.82	4.26	4.57	4.82	5.03	5.20	5.35	5.49	5.61	5.71
	4.39	**5.15**	**5.62**	**5.97**	**6.25**	**6.48**	**6.67**	**6.84**	**6.99**	**7.13**	**7.25**
12	3.08	3.77	4.20	4.51	4.75	4.95	5.12	5.27	5.39	5.51	5.61
	4.32	**5.05**	**5.50**	**5.84**	**6.10**	**6.32**	**6.51**	**6.67**	**6.81**	**6.94**	**7.06**
13	3.06	3.73	4.15	4.45	4.69	4.88	5.05	5.19	5.32	5.43	5.53
	4.26	**4.96**	**5.40**	**5.73**	**5.98**	**6.19**	**6.37**	**6.53**	**6.67**	**6.79**	**6.90**
14	3.03	3.70	4.11	4.41	4.64	4.83	4.99	5.13	5.25	5.36	5.46
	4.21	**4.89**	**5.32**	**5.63**	**5.88**	**6.08**	**6.26**	**6.41**	**6.54**	**6.66**	**6.77**
15	3.01	3.67	4.08	4.37	4.59	4.78	4.94	5.08	5.20	5.31	5.40
	4.17	**4.84**	**5.25**	**5.56**	**5.80**	**5.99**	**6.16**	**6.31**	**6.44**	**6.55**	**6.66**
16	3.00	3.65	4.05	4.33	4.56	4.74	4.90	5.03	5.15	5.26	5.35
	4.13	**4.79**	**5.19**	**5.49**	**5.72**	**5.92**	**6.08**	**6.22**	**6.35**	**6.46**	**6.56**
17	2.98	3.63	4.02	4.30	4.52	4.70	4.86	4.99	5.11	5.21	5.31
	4.10	**4.74**	**5.14**	**5.43**	**5.66**	**5.85**	**6.01**	**6.15**	**6.27**	**6.38**	**6.48**
18	2.97	3.61	4.00	4.28	4.49	4.67	4.82	4.96	5.07	5.17	5.27
	4.07	**4.70**	**5.09**	**5.38**	**5.60**	**5.79**	**5.94**	**6.08**	**6.20**	**6.31**	**6.41**
19	2.96	3.59	3.98	4.25	4.47	4.65	4.79	4.92	5.04	5.14	5.23
	4.05	**4.67**	**5.05**	**5.33**	**5.55**	**5.73**	**5.89**	**6.02**	**6.14**	**6.25**	**6.34**
20	2.95	3.58	3.96	4.23	4.45	4.62	4.77	4.90	5.01	5.11	5.20
	4.02	**4.64**	**5.02**	**5.29**	**5.51**	**5.69**	**5.84**	**5.97**	**6.09**	**6.19**	**6.28**
24	2.92	3.53	3.90	4.17	4.37	4.54	4.68	4.81	4.92	5.01	5.10
	3.96	**4.55**	**4.91**	**5.17**	**5.37**	**5.54**	**5.69**	**5.81**	**5.92**	**6.02**	**6.11**
30	2.89	3.49	3.85	4.10	4.30	4.46	4.60	4.72	4.82	4.92	5.00
	3.89	**4.45**	**4.80**	**5.05**	**5.24**	**5.40**	**5.54**	**5.65**	**5.76**	**5.85**	**5.93**
40	2.86	3.44	3.79	4.04	4.23	4.39	4.52	4.63	4.73	4.82	4.90
	3.82	**4.37**	**4.70**	**4.93**	**5.11**	**5.26**	**5.39**	**5.50**	**5.60**	**5.69**	**5.76**
60	2.83	3.40	3.74	3.98	4.16	4.31	4.44	4.55	4.65	4.73	4.81
	3.76	**4.28**	**4.59**	**4.82**	**4.99**	**5.13**	**5.25**	**5.36**	**5.45**	**5.53**	**5.60**
120	2.80	3.36	3.68	3.92	4.10	4.24	4.36	4.47	4.56	4.64	4.71
	3.70	**4.20**	**4.50**	**4.71**	**4.87**	**5.01**	**5.12**	**5.21**	**5.30**	**5.37**	**5.44**
∞	2.77	3.31	3.63	3.86	4.03	4.17	4.28	4.39	4.47	4.55	4.62
	3.64	**4.12**	**4.40**	**4.60**	**4.76**	**4.88**	**4.99**	**5.08**	**5.16**	**5.23**	**5.29**

Table 29 of E. Pearson and H. O. Hartley, *Biometrika Tables for Statisticians*, 2nd ed. New York: Cambridge University Press, 1966. Adapted and reprinted with permission of the Biometrika trustees.

In this research the table value of q is used in testing hypotheses of Tukey
The value of q_{table} where k = 4 and df = 44 (~ 40) at level significance ($\alpha = 0.05$) is **3.79**
The value of q_{table} where k = 4 and df = 44 (~ 40) at level significance ($\alpha = 0.01$) is **4.70**
If the value of $q_{observation}$ is higher than q_{table} ($q_0 > q_t$), the result is significant.